Remarks
ON
PROPER AND IMPROPER BURIAL, WITH AN EXAMINATION OF THE CLAIMS MADE FOR CREMATION.

By Sir FRANCIS SEYMOUR HADEN, F.R.C.S. Eng.

THE present communication is intended to be in no way controversial. In 1875—nearly a generation ago—it will be recollected by some, and necessarily forgotten by many, that I wrote certain letters to the *Times* in deprecation alike of the serious but readily removeable abuses which disfigure our cemeterial system and of the dangerous and wholly insufficient resources of cremation as a suggested substitute for it. To-day, without the least intention of reviving a discussion which, in the face of combination, the attractions of the advertisement, and the methods of the newspaper, I have found to be useless, I do nevertheless desire—and that in the columns of a press which is alone competent to deal with the subject on its technical side—to leave behind me such an epitomised version of my share in the matter as I care to be permanently identified with. I had hoped to be able to do this without any reference whatever to the statements which cremation relies upon to advance its interests. I have not found that possible. Some sort of visible connexion between the statements made on one side and the other has proved to be necessary to an intelligible comprehension of either of them, and this all the more that, while some of my own have been both written and printed, others of them, though written and sent to the press, have not as yet been permitted to see the light. I have therefore taken care to preface each pronouncement of my own by the cremationist statement which called it forth, and of course to reverse the order of precedence when the fact happens to have been the other way. I may also state that my object in choosing the present moment for this final record of my views has been the delivery by Dr. G. V. Poore of the Milroy Lectures and their reproduction both in THE LANCET and the *British Medical Journal*. For some such summary of the scientific aspects of the case—though hardly expecting it to come in my own time—I have in a sense been long waiting. I had, of course, not seen the lectures or had any knowledge of the form they would take; and if, now that I have seen them, I find myself venturing to take exception to certain details of terminology which appear to me to impair their value I may say at once that such details in no way affect the authority of their conclusions with which it will be seen I am heartily in accord. Nor am I, I trust, unduly elated to find those conclusions, while confirmatory of my own views, altogether out of harmony with the alarming pronouncements of the *Times*. I have nothing, however, to say against the *Times*. My relations with it have been of the very best all my life and they are not likely to alter now because it happens to have changed its editor and the editor the views of the paper.

THE CASE FOR CREMATION.

On Jan. 12th, 1875, I wrote in the *Times* as follows:—

"Interment, the apostles of cremation tell us, in substance if not in terms, and speaking of it in its most comprehensive sense, is repulsive in idea, costly and ineffectual in fact, horrible in practice, a vilification of the dead, and a danger to the living. In a variety of publications which have excited much attention they denounce not any particular mode of interment or any palpable abuses which they recognise as having crept into the practice to discredit it but the practice itself. They take no notice of the fact that the dead are little more than nominally buried and that by the interposition between them and the earth that should resolve them of such media as wood, lead, brick, and the like, interment as a principle is rendered all but nugatory and as a practice deprived of its *raison d'être*. Finally, they leave it to be inferred, since they give us no hint to the contrary, that the evils thus created are *inherent in the principle of interment and upon this inference and upon no other ground found their recommendation of cremation.*"

THE CASE FOR PROPER BURIAL.

"The case for earth burial may be thus summarised:

1. THE NATURAL DESTINATION of all organised bodies that have lived and that die on the earth's surface is the earth.

2. THE EVILS supposed to be inseparable from the principle of interment are independent of that principle and of our own creation.

3. THE SOURCE of these evils is to be found, not in the burial of the dead, but in the unreasoning sentiment which prompts us to keep them unburied as long as possible, and then to bury them in such a way that the earth (or rather the air) can have no access to them.

4. THE PRINCIPLE of burial supposes the resolution of the body by the agency of the earth to which we commit it and that the earth is competent to effect that resolution and to effect it innocuously.

5. To seek to prevent THE BENEFICENT AGENCY of the earth by enclosing the dead in imperishable coffins, brick graves, and vaults is in the highest degree irrational, since it engages us in a vain resistance to an inevitable dispensation and has led us to accumulate in our midst a vast store of human remains in every stage and condition of decay.

6. UNWARNED and undeterred by the magnitude of the evils we have thus ourselves created we are still engaged in extending and perpetuating them.

7. Were the dead only PROPERLY BURIED not one of those evils would have any existence, not a single dead body would remain to encumber the soil, and a quantity of land of incalculable value, now hopelessly alienated, would be liberated for purposes of hygiene or of utility.

8. THE REMEDY for such evils is, therefore, not in cremation or in any of the alternatives that have been proposed for burial, but in a sensible recognition of, and a timely submission to, a well-defined law of Nature, and, since some of these alternatives are dangerous, in legislative action to enforce the provisions of that law.

9. THE CLAIM that earth has upon its dead, no less than that which the dead have upon the earth, is, in short, a proposition too obvious to merit discussion. To understand it we need only consider the properties with which the soil at our feet and everywhere at our disposal has been endowed; that it is the most potent disinfectant known and the readiest of application and that, by a combination of forces inherent in it which might well appear contradictory but for the wonderful purposes they are destined to effect, it is resolvent and reformative as well; that that which under the influence of the air was putrefaction in the earth is resolution; that which was offensive becomes inoffensive; that which was mere decay a process of revivification. To question the competency of the earth, thus endowed, to effect the resolution and conversion of its dead or to fail to perceive and profit by that competency would pass comprehension if habit had not taught us to shut our eyes to it and if the advocates of cremation had not stepped in to tell us that we may improve upon it."[1]

STATEMENT BY THE "TIMES."

On Dec. 22nd, 1897, the *Times*, in a leading article in favour of cremation, wrote as follows: "By the act of interment," says Sir Henry Thompson, "we literally sow broadcast through the land innumerable seeds of pestilence which long retain their vitality, many of them destined at some future time to fructify in premature death or ruined health to thousands."

SIR SEYMOUR HADEN'S ANSWER TO THIS.

My commentary on this remarkable statement was in these terms:—

"If this statement is true the whole cosmical fabric on which our knowledge of the world we live in rests must be untrue and the earth, instead of the resolvent and disinfectant of all forms of organic decay accruing in the course of nature to its surface, no better than a mine at our feet charged with the elements not of our well-being but of our destruction. Our now established habit of stamping out cattle plague without fear of its recrudescence by simply burying its infected carcasses in shallow trenches, with or without quicklime, must be regarded as a myth; and the stay of the great plague itself (never to return by casting any number of its uncoffined victims into pits extemporised in the open streets for the purpose) but an historical figment."

STATEMENT BY SIR CHARLES CAMERON.

On August 19th, 1898, in a second leading article, as if to justify the extraordinary statement to which I have referred, the *Times* drew attention to a recent pronouncement made at Dublin by Sir Charles Cameron (also a member of the Cremation Society) to the following effect: that it had been borne in upon him that the infection both of diphtheria and typhoid fever was in some way or other connected with the soil.

SIR SEYMOUR HADEN'S ANSWER TO IT.

To this I replied, Oct. 3rd, 1898, in a letter (which, however, was *not inserted*) as follows: "That as far as I

[1] The Times, Jan. 12th, 1875.

knew there existed no ground whatever for any such statement; that by common consent typhoid fever owed its convection to overcrowding, filthy surroundings, squalor, starvation, and the actual contact of one poor unwashed, fever-stricken skin with another—in a word, to infection, or contagion, or both;" and if I had seen at the time Dr. Poore's Milroy Lectures I might have added of diphtheria: "(1) that its bacillus had not as yet been recovered from the soil; (2) that out of 30 collected examples of soil from areas likely to be infected not a single bacillus typhosus had been found in one of them; (3) that according to Koch and Loesner it had, in fact, never yet been found outside the human body; and (4) that, so far from being found in the earth, 'virgin soil' so-called was fatal to it."

All infectious diseases, I declared, divide themselves into two great groups or classes—one which derives its origin from surface water as a carrier of the morbific agent; the other from actual contact of one case with another in the open air. Again, the first of these classes is itself subdivisible into two distinct types of disease—one which depends on putrescent vegetable exhalations from marsh lands, and which includes within it all those forms of febrile disturbance known as malarial; the other which, like cholera and choleraic diarrhœa, depends on the actual introduction into the intestinal canal, by means of surface water, of the *dejecta* of patients affected with the same disease. Burial, therefore, four feet below the soil can have nothing whatever to do with any of those forms which constitute, as I have said, the first class of infectious disease. The second, and by far the larger class again, and which comprises small-pox, measles, whooping-cough, typhus, scarlet fever, diphtheria, &c., owes its propagating power to the actual contact or close contiguity in the open air of one patient with another. That class, therefore, has no connexion with either soil or water, and being wholly independent of even the surface of the earth can have even less to do with burial than the first class. To lump these two classes together, therefore, as, to help cremation, is now being done is, to begin with, a scientific solecism of the most glaring kind, and seeing how perfectly well known the superficial method of their propagation is, to suggest that they are spread when buried below the surface is a statement to all appearance in the nature of a direct appeal to popular ignorance and credulity. The zymotic death-rate, in fact, has nothing whatever to do with burial, only two out of the seven diseases which comprise it having ever been shown to depend in any way whatever either on soil or water.

THE "TIMES" AGAIN.

Meanwhile, as if determined not to give up its unsupported statement of Dec. 22nd, 1897, the *Times* on April 12th, 1898, printed a letter from Sir Henry Thompson which contained the following story:—

THE STORY OF THE BURIED COW.

"Pasteur's success in dealing with anthrax is known to all. ..... Pasteur proved that the earthworms brought up the spores and not the bacilli themselves, which soon disappear from the buried corpse after the event. These spores long retain their vitality and unless the body is cremated or is buried in a large quantity of quicklime the disease will sooner or later appear when a favourable nidus presents itself. Pasteur examined the *surface* mould at the spot where two years before a cow, dead of anthrax, had been buried at the depth of seven feet and observed germs which by inoculation produced anthrax in a guinea-pig. This is an illustration, and amply suffices here, as one among the various ways in which 'innumerable seeds of pestilence are sown broadcast through the land,' a sentence characterised by my critical friend as 'inflated phraseology,' but it has at least the merit of being strictly true."

SIR SEYMOUR HADEN'S COMMENTARY ON THIS STORY.

"Pasteur did not 'prove' that earthworms brought up from a depth of seven feet the spores of anthrax: (1) because worms do not commonly burrow to such a depth; and (2) because the buried bacilli of anthrax do not live long enough in the earth to form spores. The bacilli here referred to, like mosses, fungi, and other plants of low organisation, require for their growth carbon and nitrogen; water also and a certain temperature are necessary for the maintenance of their vitality. Like plants, also, by the disintegration of organic combinations containing nitrogen they produce certain chemical products and as *fungi* assist fermentation. They vary, too, as to the amount of atmospheric air they require, some of them, like the bacteria of *anthrax*, being unable to maintain their vitality without it and some being able to do with little (the so-called aerobic and anaerobic bacteria of Pasteur). Like other plants, again, some are reproduced by spores or seeds. When by a linear arrangement of their primitive cells bacteria grow like rods they are called, as everyone knows, bacilli. Anthrax is a bacillus of this kind and being, like *bacillus septicus*, what is called aerobic dwindles and dies when deprived of air. If, therefore, the body of an animal which has died of anthrax is buried entire—that is, without being opened—the bacilli which characterise this form of disease die with it, and notwithstanding statements to the contrary not only die with, or very shortly after, it, but are incapable of reproduction in an active form. The infection of anthrax cannot, in fact, as cremationists declare, be spread when so buried. *When, therefore, it has been reproduced in fields in which cattle infected with the disease have grazed, died, and been buried the fresh outbreak is owing, not to the buried carcass, but to the spores which have been left by the dejecta of the infected animals upon the surface of the field in question.* Both Klein and Koch are fully agreed as to this, and Koch, in addition, has proved by direct experiments[2] that the spores of anthrax are not, as Pasteur has stated, taken up by earthworms and deposited on the surface by their castings; and that the spores of anthrax bacilli, when mixed with earth in which worms are present, are not taken up by these creatures at all. Klein, indeed, carries these statements further and says: 'If bacilli grow in the depths of a fluid medium—in a medium, that is, but scantily supplied with air—they do not form spores, and at length degenerate, and, as the fluid dries up, this degeneration goes on till finally nothing is left of them but their débris. Such bacilli, of course, are quite innocuous when introduced into the tissues of animals or into fresh nourishing media.'[3] Those, therefore, who have followed me in this statement—a statement examined, re-examined, and confirmed by the most eminent men to whom I have submitted it (and, as I have since understood, admitted by Pasteur himself)—will see how little reliance can be placed on the reports spread broadcast through the land by the advocates of cremation that by the act of interment we shorten human life."[4]

[2] Mittheilungen aus dem Kaiserlichen Gesundheitsamte, 1881.

[3] Klein: Micro-organisms and Disease, chap. xi., pp. 155, 156 (Macmillan, 1886).

[4] Haden: Congress of Hygiene and Demography, London, 1891.

CREMATION AN ENCOURAGEMENT TO CRIME.

I now, and I trust for the last time, come to that part of the subject which no cremationist if he can help it is willing to hear mentioned, which the newspapers engaged in the cremationist propaganda are careful not to discuss, and which, whatever the momentary success which may attend (or appear to attend) the agitation of the question, will assuredly sooner or later provoke the repressive action of the law.

On April 25th, 1893, in his evidence before a Select Committee of the House of Commons, nominally on "Death Certification," but really largely employed to advance the interests of cremation, Sir Henry Thompson made the following admission (Q. 1125, 1139)—namely: that, *out of 393 bodies which he had up to that time burnt he had thought it prudent in "four or five cases" to take out and preserve the stomach, kidney, spleen, and a portion of the liver.* Why? He had previously told the committee that cremation, *as he practised it*, involved little or no risk, and the committee, as is proved by their report, had believed him. Why, then, these precautions? Well might one of its members ask (1377–78) whether, if such an admission were "*known*" (*sic*), it would not put an end to cremation altogether! I ask, Is it known? Have the votaries of cremation the least idea of any such proceeding as a condition precedent to a participation in its benefits? Is it duly set forth as such in the "Manual of Modern Cremation," which they are invited to depend upon as their guide? Has it occurred to them that in submitting the bodies of their friends and relatives to be thus dealt with they have one and all more or less identified themselves with these four or five suspected cases and that the day may come when, in the cause of justice, it may be necessary to obtain the names of those who thus figure as possible homicides? Why, again, confine these precautions to the detection of poisons, as if poison were the only weapon of the murderer? And *cui bono*, when, having burnt the body, a stab in the back or a knock on the head or a ligature round the neck is beyond the possibility of discovery? And, again, if in the early part of 1893 four or five suspicious cases out of 393 had already been burnt, how many more, may I ask, has it been considered prudent to put under lock and key since then when the number burnt amounts to 1283? Is it possible that any Government in its senses (on the report of a committee composed largely of cremationists) that with the special precautions taken by Sir Henry Thompson "there was little probability that cases of crime would escape detection; still, that inasmuch as such precautions were purely voluntary *they ought in the interests of public safety to be enforced by law.*" Have they been enforced by law? Has the smallest notice been taken of this formal recommendation of the committee? None whatever. The destruction of evidence still goes on. That such a thing can be done with impunity by a self-constituted private society would, if it were not a fact, be deemed incredible, and as such I respectfully bring it to the notice of the Home Secretary. Not—having once embarked in so hazardous a business—that I blame the Cremation Society for taking adequate precautions against "accidents." But are they adequate? How can they be? That the Cremation Society has all along been fully conscious of the risks it was running is proved by its own offer to make a post-mortem examination of every body it burnt. Why did it withdraw that offer and adopt instead of it the disembowelling process I have described? By what process of ratiocination is it now satisfied with a certificate (given, it may be, by the murderer, as in the case of Dr. Cross and Mr. Palmer) and "verified" by a stranger to the case who, being called in to see the body, has nothing to go by but what the possible murderer chooses to tell him? That such a certificate is not worth the paper it is written upon is certain and that it would be so regarded in a court of

law would appear by the evidence given before the Committee by Mr. Braxton Hicks, the well-known coroner. My own evidence on the point is meanwhile as follows:—

EVIDENCE OF SIR SEYMOUR HADEN.

3631. "And that" (exhumation), "you think, would be a protection against crime?—*I think it would be the best protection you could get against crime.*"

3632. "Then you would still have the body to be exhumed if necessary?—*Yes, certainly.*"

3633. "And on that account you would not approve of other methods of doing away with the body other than 'earth-to-earth' burial?—*I should approve of no method of doing away with the body except such a method as admitted of its exhumation.*"

3634. "If portions of the viscera were retained, say the stomach and its contents, and portions of the liver and portions of the kidneys were retained, and the body cremated, would that meet your purpose?—*Certainly not; no such retention of those viscera would be sufficient. Poison, for instance, is not always found in the stomach and primary organs of digestion*"—nor, I might have added, is poison the only, or only the most frequent, resource of the murderer.

3635. "It would probably be in the liver or the kidneys, would it not?—*It might be and it might not.*"

3636. "You want the whole body, you think?[5]—*I mean that it may be necessary to examine other organs than those you indicate. Such ultimate organs and tissues, that is to say, as are capable of retaining the poisonous agent.*"

3655. "You would not go so far as to require a post-mortem examination in every case?—*In the case of proper burial I would not require a post-mortem examination. In the case of every other method of disposing of the body I would absolutely require a post-mortem examination and something more than a post-mortem examination—a medico-legal post-mortem examination.*"

3656. "You consider that would be absolutely necessary?—*Yes. I say that every attempt to destroy a body without such an inquiry would, in my opinion, be a criminal act.*"

3657. "Your opinion is, I think, that earth burial in the way we have referred to is also better from a sanitary point of view?—*Quite so. In a sanitary point of view it is perfect.*"

3658. "And does not in any way, you think, tend to spread infectious disease?—*Absolutely in no way whatever. Any statement to the contrary is a statement which is not warranted by fact.*"

CONCLUSIONS.

The conclusions I have arrived at, therefore—many of them, I may say, forced upon me—are as follows:

1. That owing to the one-sided statements put forth by the Cremation Society a very general impression has been created that there is only one kind of burial and only one remedy for it—cremation—a statement which is entirely misleading.

2. That this belief has been greatly assisted by the systematic suppression on the part of an influential portion of the press of all effectual answers to the cremationists' statements and that in this way the country has become flooded with these unopposed fallacious statements.

3. That the Government, as represented by the divided authority of the Home Office, the Local Government Board and the London County Council, is equally to blame for allowing the abuses I have pointed out to go on and is therefore to that extent responsible for the cremationist agitation.

4. That burial as at present carried out in coffins which prevent the resolution of the body is equally a reproach to the intelligence of the country and to the Government which permits and even prescribes such a practice.

5. That to make the practice of burial perfectly harmless and to do away with all excuse for cremation nothing more is necessary than to take the whole management of cemeteries out of the hands of the undertaker (and the speculator) and to make it a matter of State or municipal regulation.

6. That while the earth, properly used, is capable of disposing of any number of dead bodies, and of disposing of them insensibly and with advantage both to its own substance and to the air above it,[6] the practice of cremation, on a scale large enough to have even the slightest influence on burial either as a rite or as a custom, supposes the necessity not of one but of many furnaces, the use of which in or near towns no municipal authority would for a moment permit, and which, even in the open country, would cause such a consumption and carbonisation of pure air as to render (changes of wind considered) a large area in the neighbourhood of such vomitoria uninhabitable.

7. That the cremationist statement, as reported in the *Times*, that burial, however conducted, is "a propagator of infection and a cause of increase in the zymotic death-rate," is not only untrue but abundantly disproved by expert evidence from all parts of the country.

8. That there is no definite statistical evidence to show (*a*) that the general death-rate, or (*b*) the zymotic death-rate, or (*c*) the death-rate from any group of diseases, or (*d*) the death-rate from any single disease, zymotic or otherwise, has ever been affected by burial, even under the present objectionable conditions.

9. That the further statement made in the *Times* as to the number of exhumations practised and of murders discovered by them is absurdly incorrect unless Palmer's six cases are counted as one, De Trouville's seven as one, Higgins and Flannigan's 10 as one, Cotton's 20 as one, Dr. Brouardel's 445 as one, and so on.

10. That the statement in "Modern Cremation" (pp. 61, 62) which allows the reader to infer that, though "exceedingly rare in this country," it cannot be altogether denied that premature burial is *possible while "with cremation no such catastrophe could ever occur,"* is fairly disposed of by the following question put to six of our most distinguished physicians and surgeons and their answer to it.

"As hospital physicians and surgeons of extended experience has it ever occurred to you to see a case of so-called suspended animation or trance which in your opinion could be mistaken for death; and do you think, the present state of our knowledge and resources considered, that the occurrence of such a case, or of such a mistake, can be regarded as possible?"

"In reply to this question we desire to say that no case of the kind it suggests ever presented itself to any of us and to express our confident belief that the dread of the possible occurrence of such a case is without support in the medical experience of this country; and further, that the signs of death are as certain after a few hours' suspension of the vital functions as they can be after many days.

"It would, we feel, be a matter of regret and an indication of a low state of public intelligence if the groundless fears to which our attention has been directed by Mr. Seymour Haden should hinder for a moment the adoption of an improvement in our social system the importance of which cannot be overrated.

"GEORGE BURROWS, M.D.,
"President of the Royal College of Physicians.
"WM. FERGUSSON.
"WILLIAM W. GULL, M.D.
"WILLIAM JENNER.
"JAMES PAGET.
"THOMAS WATSON, M.D.

"London, March 13th, 1875."

12. That the destruction, therefore, by cremation of all demonstrable evidence of the cause of death—of all such evidence, that is to say, as is only to be obtained by the exhumation of the body—is a danger to society and an arbitrary act on the part of an irresponsible body of persons which ought to be at once made the subject of competent investigation, and if its dangerous character is recognised to be declared illegal.

13. It would seem, in fact, that what is wanted is not a Bill to regulate cremation—which, on the contrary, as a measure of public safety ought rather to be at once declared a misdemeanour—but a Bill to regulate and ensure safe and proper burial, which Bill, to be effectual, should, besides dealing with the whole subject of cemeterial management, contain the following provisions: (1) for burial within the earth as the only legal mode of disposing of a dead body; (2) for a limitation of time beyond which it should be illegal

[5] This question was put ironically. I had said nothing about "the whole body," and, this being so, on being asked by Dr. Cameron (3640) if "I would please give a single instance in which this had been done" I refused to answer the question and referred him to Dr. Stevenson, well knowing that he had, in the case of Matilda Clover, just found strychnia in the muscles.

[6] It is to be remembered in this connexion that as all things which have lived die and return to the earth, so the amount of decay which the earth is thus continuously and insensibly disposing of is exactly equal to the whole sum of life which is present upon its surface

to keep a dead body unburied; and (3) for the illegality of strong coffins, brick graves and vaults, and of all contrivances having for their effect to retard resolution, and to confer on the dead a tenure, practically illimitable, of the soil which is necessary to the purpose of the living.[7]

THE MILROY LECTURES.

The importance of these lectures as the first utterance of the kind in affirming by the aid of personal observation and collected facts the principles for which I have been contending for so many years, and as dissipating the fallacies which for too long a time have been allowed to possess the uneducated ear, is so considerable that I can do no less than accord them a distinguished place in the final record I am now making. If in his evident desire to be judicially fair Dr. Poore has somewhat attenuated the value of his own observations by giving undue prominence to those of others this cannot be chargeable upon him a fault. It is enough for the purpose of this record that he tells us in correction of the speculations of Sir Charles Cameron of Dublin that the bacillus of diphtheria, like that of enteric fever, has never yet been found in the soil; that the discovery of hæmatozoa in the blood has opened to us a new view of malaria as something altogether different from a soil disease; that the plague bacillus has never been met with beneath the surface; that it is not in the earth but in the air that we must chiefly expect to find the morbific particle (whatever that may be) and in the surface water which is its readiest carrier to the soil, and it may be a little but only very little below it; that the *dejecta* of the patient and the germs of anthrax and of tetanus, though found to have attained a lodgement within the particles of the earthy mass, form no part of its substance and lose all their virulence when once there. In a word, that the enteric fever referred to by Sir Charles Cameron, so far from having its *nidus* in the soil is, as I have stated, far more likely to have its origin in the actual contact, under conditions of filth and overcrowding, of one fever patient with another.

AD TERRAM.

For myself, however—and I am not sorry to have an opportunity of making the statement here—I am disposed, in the absolute belief which I have in the soil as the final correctant of every form of organic decay—and even of disease—accruing in the course of nature to its surface, to go farther than Dr. Poore and invest it with supreme power as such universal correctant—as the chief factor in the great cosmical design, in short—for this great purpose. Never, surely, was the cremationist farther at sea than when, in pursuance of his aims, he assumed the contrary and, with the aid of the *Times*, went out of his way to proclaim it *urbi et orbi*. "By the act of interment we literally sow broadcast through the land innumerable seeds of pestilence which long retain their vitality, &c., destined at some future time to fructify in premature death or ruined health to thousands." Such is the statement which, in presence of a world's population which is ever-increasing and an individual duration of life which is ever-extending, the public is seriously invited to believe, as if—for it means nothing less—the earth and its inhabitants were thriving on disease!

I can, in fact, see nothing more probable than that as water in the shape of rain is largely concerned in cleansing and washing the germs of disease out of the air, so the earth as the natural filter of such water is the ultimate cleanser and disinfectant of both. In a word, that its beneficent office in this respect is the very opposite of the malevolent office which is imputed to it by the advocate of cremation.

Here, however, I find myself under the necessity of parting company (though only for a moment) even with Dr. Poore, seeing that, though we arrive at the same conclusions, we get at them by the aid of materials which are not the same, and by means of a language which does not convey the same thing to the educated ear. The point is an important one, because much of our misunderstanding of the power of the earth as a disinfectant has arisen out of it, and no small amount of capital hostile to its pretensions on this score has been manufactured out of it. In his first lecture, for instance, Dr. Poore expressly tells us that when he speaks of earth he means *humus*—that is, of the earth of his kitchen garden which is heavily laden with animal matter—while I have been making my experiments in the comparatively hungry soil of the park land which surrounds my house. In other words, while he has been burying animal matter in animal matter I have been burying it in earth which nearly approaches the condition of what is called "virgin soil." The results obtained by us are consequently not the same. My reason, however, for taking note of the difference is that while his proceeding represents "interment" in its worst form, mine represents it in its best; his in the form which I have especially condemned and which is in fact made the groundwork of the cremationist objection to burial; mine in the form in which burial ought to be, and might be, carried out if cemeteries were only properly managed.

The language, again, which he employs, and which is that only too commonly used by the bacteriologist, is from my point of view objectionable because it encourages the popular belief that the body, even when properly buried, instead of re-entering the atmosphere insensibly and in every way inoffensively, is beset by a sort of nondescript borderland saprophytic fauna whose office it is to devour it—a reading which the cremationist of course goes out of his way to encourage, and which is really materially helped by the use of such terms as "the living earth" to signify nitrification, and of such a word as "hatched" to signify the germination of the saprophyte, which, I take it, in common with Dr. Poore, is at best an organism little higher than the lichen or the fungus. Nor am I attaching too much importance to a carelessness of terminology which I believe began with Pasteur, because, while it imposes upon the popular ear, it is not without its effect even on our own—an effect which in fact, is demonstrable. When Dr. Poore, for instance, digs down into the humus in which he has buried a rabbit and finds it "full of earwigs" even he derives, *ipso facto*, a sort of warrant for his terminology; while I, digging into my own graves, which I do once a year to determine the progress of nitrification, and finding nothing of the kind, not unnaturally take exception to it. I have also another reason for objecting to it in the fact that 17 years ago, when bacteriological science was comparatively young, I wrote a letter to a late very distinguished friend on the subject which, though only half serious, will even now bear repetition.

38, Hertford-street, Mayfair,
December 18th, 1882.

MY DEAR GULL,—I am glad to observe that what I have called the bacterial bugbear is beginning to moderate its pretensions as a general alarmist. Not that I disbelieve in "germs" and other entities equally occult and speculative, which by a pretty free use of Pasteur's term are being employed to shake our faith in the plan pursued by Nature for the resolution of dead matter since the world began. All I say is that, without being in a position either to affirm or deny the existence of these aggressive germs and the harm they are said to do, I should like to hear something of the friendly germs and the good they do. If it should come to be proved, which is possible, that the great operations of Nature, destructive as well as constructive, are carried on by germs, all I can say is that I am prepared to think as highly of germs as I do of chemical action, or of any other of those forces, physical or vital, by which Nature is pleased to work. I object, however, to their employment as missiles. I object to hear them spoken of as if they were creatures which prey upon us and to have them hurled at us as Nemesis for our misdeeds when really all we know about them is that the work they do is very like the work of ferments such as the yeast plant and other vegetable products of a similar character. I will be bound to say that if at this moment we canvassed public belief upon the point we should find nine-tenths of it in terror of all microbes not as plants but as predacious animals, the more formidable that they are invisible to all but the expert and that if we swallow them, as perforce we must, it is in the hope that by doing so we sterilise them—which, in fact, in 999 cases out of 1000 I fully believe we do.—Yours, F. SEYMOUR HADEN.

The reappearance of this letter in connexion with the Milroy Lectures reminds me, however, of another thing which has amounted to a profession of faith with me for many years and which I observe has not escaped the acumen of Dr. Poore—the recognition, I mean, of the inherent power of the individual to resist, against the heaviest odds, the convection of disease—*a power evidently immeasurably greater than that either of the soi-disant omnipresent microbe or of the artificial bacillus, however carefully it may be cultivated.* I cannot but think, with every respect for the praiseworthy efforts of the bacteriologist to track the morbific particle to its lair, and master it there with its own weapons, that room still exists for a larger faith in those provisions of Nature for our individual protection than we are altogether willing to accord to them. If it is really a fact that, with every drop we drink and

[7] Since writing the above I see without surprise an announcement in the British Medical Journal of March 25th that "at no distant period" and possibly by means of a limited liability company (!) it is proposed to erect a completely equipped crematorium in the near neighbourhood of London.

every mouthful we eat, we are taking in enough of the active principle of disease to destroy a regiment, and that, notwithstanding, we not only escape infection but are perpetually diminishing the zymotic death-rate, I find myself, with Dr. Poore, obliged to accord a far greater value to this beneficent endowment of personal immunity than is commonly conceded to it.

Woodcote Park, May 20th, 1899.

An Address

ON

RADIOGRAPHY, WITH SPECIAL REFERENCE TO THE DETECTION OF RENAL CALCULI.

Delivered before the Oxford Medical Society on Friday, May 12th, 1899,

BY C. MANSELL MOULLIN, M.D. OXON., F.R.C.S. ENG.,

SURGEON AND LECTURER ON SURGERY AT THE LONDON HOSPITAL; PRESIDENT OF THE ROENTGEN SOCIETY.

GENTLEMEN,—The first thing which I wish to do is to express to you my cordial thanks for the honour which you have done me in inviting me to read a paper before the Oxford Medical Society on some of the problems of radiography. It was with much pleasure that I accepted the invitation so kindly sent me by your secretary, not only because of my long-standing connexion with Oxford, but because of the great interest which I take in radiography and in everything which can assist its advancement.

I do not think that it is necessary for me to say anything here about the nature of the Roentgen rays or as to their mode of production. There are many things in connexion with them which are still obscure, but it appears now to be generally acknowledged that they are either exceedingly short or very irregular transverse ether waves and that they are produced by the bombardment of the antikathode by the highly charged molecules which form the cathode stream. Other things being equal their brilliancy appears to depend upon the volume or the thickness of the spark and their penetration upon the force of the cathode stream—or in other words upon the hardness of the tube and the strength and the rate of interruption of the current. Clearness and sharpness of outline are only to be obtained by keeping the focus from which the rays emanate as small and as steady as possible and for this purpose it is advisable that all rays coming from other parts of the tube, the products of what have been called parakathodic rays, should be cut off. Putting aside for the present the therapeutic uses of the Roentgen rays, their importance so far as medicine and surgery are concerned is derived from the power which these ether waves possess of passing more or less thoroughly through the tissues of the body. According to the conditions of the experiment nearly all the rays may pass through or nearly all the rays may be absorbed, so that the screen upon which they are received is either brilliantly lit up or is almost dark. Success in radiography, so far as its practical application is concerned, consists in proportioning the grade of the rays to the tissues which they have to traverse so as to produce the greatest amount of contrast. They must, if possible, penetrate some of the tissues completely and others not at all.

Nothing is more easy than to obtain a representation of a thin structure such as the hand. The screen or the plate, whichever is used, is close to the bones, so that there is no divergence of the rays after these have passed through and the outline is not blurred. The number of layers projected in shadow upon the same plane is comparatively small, and the absorptive index of the tissues between the bones is quite different from that of the bones themselves. The real problem is to obtain pictures of structures which lie at a considerable depth, of the vessels, the muscles, and the other soft tissues which form layers one over the other, and particularly of deeply buried foreign bodies, such as renal and biliary calculi, the absorptive index of which is not very different from that of the tissues which surround them. In difficult cases such as these, in which it is often of the highest importance to obtain definite information, I believe it to be by far the best plan before attempting to take a photograph to make a thorough investigation with the screen. Both methods, of course, should be employed so that no chance may be neglected, but I think that there can be very little question that in the hands of a skilled observer not only does the screen give much more varied and more accurate information than a photographic negative, but that the information which it gives enables a photographic negative to be taken afterwards with a much better chance of obtaining a good result than it otherwise would. It is quite true that the screen does not give a permanent record, that with the screen there is no possibility of quietly and deliberately thinking the matter out and calculating the significance of each mark, and that the observer has to form an opinion at once upon a flickering shadow seen perhaps for an instant only, but in such a case it is quite possible that with a photographic plate the shadow would never be detected at all. The intensity and penetrative power of the rays, especially when the apparatus is being worked at its highest pitch, are constantly varying. With a screen it is possible for the observer to seize upon the moment when there is some slight difference in the degree of penetration and a shadow is thrown for an instant upon an otherwise bright field. Contrasts may be detected in this way which only last for an inappreciable space of time, and often the most valuable information is obtained by watching these changes. A photographic plate, on the other hand, records the sum of all the effects which have been produced since the beginning of the exposure. It is quite possible, if the exposure is prolonged, for a sudden increase in the penetrative power of the rays to obliterate all that has been produced before. I am convinced that when it is wished to obtain a photograph of one of these cases—and it is always advisable that both methods should be employed when there is any exceptional difficulty—no exposure should be made until it has been ascertained by means of the screen that the desired degree of penetration has been obtained and that the shorter the time of exposure and the greater the volume of light the better is the result likely to be. As a matter of fact, I believe that the only successful photograph of a cholesterin calculus which has ever been taken (biliary calculi are even less absorptive than uric acid ones, and therefore more difficult) was obtained in this way—a very hard tube to ensure penetration of the whole thickness of the body, and a very short exposure in order that the contrasts might not be obliterated. This photograph of a renal calculus which I am enabled to show you through the kindness of Mr. Mackenzie Davidson illustrates the same thing. It was taken in one minute. The volume of light was enormous and the penetrative power of the rays was accurately proportioned to the structures which they had to traverse. The relative merits of the screen and the photographic plate for clinical work are seen even more distinctly in the examination of the chest for such complaints as incipient phthisis. The screen in the hands of a skilled observer whose eye is trained where to look and what to look for tells a great deal more than a photographic plate. A negative result in the case of the latter is not worth anything as evidence. It is another advantage in the case of the screen that the position of the light with regard to that of the object which is being investigated can be varied without spoiling the result. Everything in the case of a photographic negative must, of course, be absolutely fixed. By using a screen and altering from time to time the position of the focus tube—or, though not so well, that of the patient's body—the shadow of one object may be made to move through a certain range and alter its relation with regard to that thrown by others. And in a few instances, exceptionally favourable ones I admit, valuable information may be obtained as to the depth of objects from the surface. Such results must, of course, always be confirmed by means of photographs before operation is decided upon, but the screen will show whether any such result can be obtained, and if it can be obtained where the tube and the plate should be placed in each individual case.

This is not of so much value for renal calculi, as the distance of the stone in the pelvis of the kidney from the last rib or the transverse process of one of the lumbar vertebræ is not sufficiently great to make much difference, but it is of great importance in the case of such an injury as a narrow fissured fracture. Even when the bone is a superficial one this may easily be missed if a screen is not used. Unless the antikathode is exactly over the fissure the shadow of the bone as thrown upon a photographic plate may appear to be perfectly normal. With a screen and the power of altering the relative position of the light and the object the fissure is shown at once.

I am not prepared to say that the advantage of the screen over the plate will be permanent. Radiography is so young yet, and improvements in its methods are so numerous and so sudden, that the conditions may be entirely reversed in the course of a month or two. We may in a little while be able to take a series of negatives, one after the other at the same sitting, with rays of different penetrative power and with different times of exposure, and then by combining and studying the results together we may be able to obtain information which shall be more exact and definite than that which we now obtain with the screen. It seems probable from many things that the next great improvement will be in the sensitiveness of our photographic films. At present they allow a very large proportion of the rays, probably 90 per cent., to pass through without producing any effect, and although this can be obviated to a certain extent by placing a screen upon either side of the plate during exposure it is done at the cost of the appearance of the print, the details in which are seriously obscured by the granular effect which is produced even with the finest screen.

Whether an induction coil or a static machine gives the best result in cases of suspected renal calculus depends upon so many considerations that it is impossible to make any definite statement one way or the other. In working with different observers I have been greatly struck with what I can only call the individuality of the apparatus employed and the way in which it responds to a particular method of treatment. A tube, for instance, which has been working well upon a coil seldom gives so good a result at once with an influence machine, and *vice versâ*. The cause is in all probability merely a question of adjustment, but it makes any attempt at comparison very difficult. Then each man seems to work his apparatus in his own way. This is especially the case with the tubes. One man warms the anode, another heats the cathode, a third connects the tube in some special way. Each man prefers his own method and I believe succeeds best with it.

Local considerations are sometimes of importance. In Cuba, for instance, owing to the moistness of the atmosphere, it is said that the Americans found their influence machines almost unworkable. On the other hand, in the Soudan where the air is intensely dry, Major Battersby, R.A.M.C., preferred a coil, owing to its greater portability, supplying the motor power which was required for his dynamos by an ingenious arrangement of soldiers and bicycles. But if vulcanite can stand the climate, of which I am not sure, it is a question whether some modification of the influence machine, such as Bonetti's, composed of two concentric ebonite cylinders, 50 centimetres high and 50 centimetres in diameter, giving a spark length of 30 centimetres, would not have answered equally well and have been more convenient. The great drawback seems to be that the surface of ebonite plates so soon becomes oxidised, and though it can be renewed by sand-papering and re-varnishing proceedings of this kind are not always practicable.

The power of dispensing with all forms of batteries and accumulators is a great advantage on the side of the influence machine. Anything can drive an influence machine; it is always ready and it does not get out of order so easily as does a coil. Mr. Wimshurst tells me that he has had one in constant work for 12 years without its failing in any way. There is no risk of destroying the insulation. With plates of sufficient surface it can be made to give a stream of ample volume and the strength of the current is practically uniform. Moreover, there is good evidence to show that influence machines are much less liable to cause injuries than are induction coils. This is, perhaps, not of so much consequence now that hard tubes and short exposures are employed. The so-called Roentgen ray burns, which are not due to the Roentgen rays at all but to the electric discharge from the surface of the tube and the electrodes, were caused by the prolonged exposure which was necessary when soft tubes were used. Now such an accident is so rare that although the Roentgen Society sent round a circular to all its members asking for particulars of such cases they received only five replies, and none of these related to cases of recent date. Still the fact for what it is worth tells in favour of the static machine. In another way no doubt it is safer. The current from an influence machine is quite harmless supposing by any chance the patient happens to get into the circuit. I have heard of this happening in the case of a 24-plate Wimshurst machine. One electrode became detached and fell upon the patient's abdomen, which was exposed beneath, without causing him the smallest discomfort. Just as with Tesla's high frequency apparatus it is quite possible, standing upon a glass plate, to light up a tube by holding it in the hand while forming part of the circuit. An experience of this kind would be very unpleasant if a coil were being used.

Surprises, however, as I have mentioned already, are so common and so sudden in radiography that positive statements as to the relative merits of coils and influence machines when difficult cases such as renal calculi are in question can never be of more than temporary value. Within the last few weeks an adaptation of a principle which has, I believe, been known for years and which has been made use of for welding steel—the Wehnelt electrolytic break—has effected what appears to be a complete revolution. It has increased the power of the coil and the steadiness and volume of the stream to such an extent that it is an open question whether the advantage now is not on the other side. In its essentials the construction of the Wehnelt break is exceedingly simple. It merely consists of a platinum and of a lead electrode—this latter of considerable size—immersed in dilute sulphuric acid. It is placed in the primary current with the platinum attached to the positive pole. No condenser is required. The immediate effect is the formation of a brilliant intermittent arc, apparently between the platinum and the acid. The interruption, which appears to be constant for the same strength of acid and the same distance, takes place many hundred times a second. The spark length of the coil is not so great as with a mercury or a platinum break, but the volume is enormously increased and the light obtained is much more brilliant and is perfectly steady. The hardest tubes, those which have a bluish tinge when lighted up and which are unworkable with a platinum or a mercury break, give a magnificent light of immense penetrating power with it. So far it has only been worked with a constant current of high voltage, requiring therefore rather large accumulators, but recently it has been adapted to the alternating supply as well. Whether it will work permanently remains to be seen. It seems to get tired after a time, but generally speaking when this occurs it can be made to start again either by mechanical means or by increasing the strength of the current. There can be little doubt that this is one of the most important advances in practical radiography.

The condition of the patient and the composition of the stone in cases of suspected renal calculus require special consideration. If the patient is thin and anæmic, with poor muscular development, and if the calculus is composed of oxalate of lime positive evidence can usually be obtained. In some instances in which it was doubtful whether the symptoms were due to tuberculous pyelitis or to calculus the point has been definitely settled at once. Tuberculous deposits in the kidney are never sufficiently opaque to throw a definitely limited shadow like that of a calculus. In others in which the symptoms have pointed first to one side and then to the other calculi have been proved to be present in both kidneys, and in others again it has been shown that in addition to the main calculus there were other smaller ones buried in the substance of the kidney which would very probably have been overlooked in an operation. Phosphatic calculi are harder to detect and calculi of uric acid or of urates harder still; in fact, the absorptive capacity of a uric acid calculus is scarcely greater than that of the highly vascular kidney which surrounds it. When the patient is stoutly built, and especially when he is muscular as well as stout, success is much more rare. The tissues, corresponding to the larger proportion of hæmoglobin they contain, are more opaque. The calculus is farther from the screen or plate so that its shadow is less well defined, and the distance from light to plate is much greater. On one occasion Mr. Mackenzie Davidson and I in spite of every endeavour failed to get a satisfactory result. The patient was a strongly-built and rather stout man who

had been sent to me with a suspected stone. The symptoms and the character of his urine pointed strongly to the presence of a stone in the kidney and still more that it was in part at least composed of oxalate of lime. But we were quite unable to get any evidence of it with a 12 in. coil. The tube was a specially hard one. Only the day before, examining a thin, anæmic woman with the same object, the whole renal area had been brilliantly illuminated. Yet after making full allowance, according to the ordinary calculation, for the increased distance between the tube and the plate and for the thickness of the patient, the result was of no value one way or the other. The Wehnelt interrupter was not known then, but I think it is highly probable that if it had been we should have succeeded with it. In a difficult case such as this every endeavour must be made to reduce the thickness of the tissues to be traversed as much as possible. The patient's bowels must be thoroughly emptied by purgatives and enemata and no heavy meal should be taken for some hours, so that the stomach may be empty and its walls contain as little blood as possible. I have thought in some of these cases of distending the stomach with gas. It can easily be done by giving the patient successive doses of bicarbonate of soda and tartaric acid. One of my colleagues, Dr. Bertrand Dawson, has tried this with success in a case in which it was necessary to map out the outline of the enlarged stomach; and it seems to me that if it were employed in these cases it would materially help to lift up the liver and raise it from off the kidneys, especially upon the left side, but I have not yet had an opportunity of putting this into practice.

The position of the patient is of great importance. If he is sitting upright, the stone is but little influenced by the respiratory movements, and this is, of course, a great advantage, as it is impossible to obtain a definite shadow unless the object is fixed. But if the abdomen is at all a full one the liver is crowded down on to the front of the kidney and the antero-posterior diameter of the body increased. I prefer the patient to be recumbent, with the back well arched. The light should be passed through in both directions, from before backwards, with the screen or plate behind and *vice versâ*. In this position the tension of the anterior abdominal wall is increased, the front of the abdomen is flattened as far as it can be, and the liver is lifted to some slight extent from off the kidney. The influence of respiration upon the calculus may be counteracted by an ingenious device contrived by Mr. Mackenzie Davidson. The patient is directed to hold his breath for so long as he conveniently can, and the exact distension of the thorax is noted by means of suitably placed pointers. Then he is allowed to breathe until he has recovered himself when he is directed to hold his breath a second time with the thorax in exactly the same state of distension. This is repeated as often as necessary, the light being only switched on during the period of apnœa when the thorax is at rest and the kidneys and the calculus are presumably occupying exactly the same position relatively to the light. As the total exposure has been shortened by Mr. Mackenzie Davidson down to one minute it is not so difficult for the patient as it might be supposed.

With regard to biliary calculi I have very little to say. They are even more difficult owing to their very low absorptive index. As usually happens the difficulty is always greatest in those cases in which the information is most needed—when, for instance, the calculus does not lie in the gall-bladder but in the common or the hepatic duct and when the patient is stout and middle-aged with a large and firm abdomen which resists pressure. The best chance of success is to place the patient in the dorsal position with the back well arched and the focus tube beneath. In this way the abdominal wall is made as thin and as tense as possible, the common bile-duct is brought much closer to the surface of the body and to the plate than would be imagined by those who have not tried operating in this position, the liver is lifted up to some extent, and the densest tissues—the muscles, &c., of the back, which have the greatest absorptive power—are nearest to the light. The effect of this is to make the shadow which they cast more diffuse and uniform, so that it merely produces the effect of a darkened background upon which the shadows thrown by the objects which lie nearer to the plate are less definitely outlined. But even with all these precautions and with the best of apparatus I do not think that there has been more than one successful case.

WOUND OF THE RIGHT URETER DURING OVARIOTOMY; SUTURE; FISTULA; RECOVERY.

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WOUNDS of the ureters are with few exceptions the accidental consequence of surgical interference for other conditions and they add a serious complication to procedures which are sufficiently formidable without them. They are liable to occur in three groups of operations—viz., (1) abdominal operations for certain pelvic tumours often opening up the broad ligaments and usually far from simple to remove; (2) vaginal or sacral hysterectomy for cancer; and (3) Kraske's operation for malignant disease of the rectum. The cases tabulated in this paper are drawn from the first and second groups, in which a possibility of injuring a ureter is always before the operator's mind, but though no case of repair of a ureter after a Kraske's excision of the rectum is recorded, the third group is introduced here because I have seen post mortem an instance of complete division of one ureter in this operation which apparently had escaped detection and had led to the fatal peritonitis. The following case belongs to the first group.

CASE 1.—A woman, aged 35 years, came under my care in Dr. Braithwaite's absence, and on May 21st, 1898, I removed a multilocular ovarian cyst containing a large calcareous mass from the right side and a proliferating papillomatous cyst of the ovary from the left. The right tumour, for which the operation was undertaken, was bigger than a large cocoa-nut and expanded the broad ligament. Three-quarters of its surface had to be enucleated from between the layers of the latter and from the floor of the pelvis to which it was densely adherent. Whilst separating and dividing the numerous bands of fibrous tissues passing from the pelvic fascia to the tumour one rather larger than the rest was included between a couple of ligatures preparatory to division. On account of its size this was done cautiously and at the first cut with the scissors it was evident that the right ureter had been partially divided. The ligatures were left *in situ* and the distal extremity of the ureter was carefully separated from the tumour. The pedicle of the latter was finally isolated, ligatured, and divided, and the tumour removed, and the left ovary being found to be the subject of a ruptured proliferating papillomatous cyst, the whole of that appendage was also taken away. There was a good deal of bleeding from the space from which the right tumour had been enucleated and this was packed with sponges whilst the injured ureter was being repaired. The ligatures were first removed. The gap in the ureter, which was not dilated, included quite half the circumference. Its edges were first drawn together by four interrupted fine silk sutures (in the absence of sufficiently fine catgut) transfixing all the coats, the ureteral walls being so thin that to exclude the mucous coat and yet get a firm hold seemed practically impossible. Then four Lembert sutures, also of fine silk, were applied; and, lastly, the soft connective tissue which was attached to the ureter above and below the wound was brought together by one or two more sutures. The ureter was then placed on the floor of the pelvis and the operation concluded. A Keith's drainage-tube was placed in Douglas's pouch and iodoform gauze was packed down into the raw cavity over the injured portion of the ureter and brought out alongside the glass tube. The wound was then closed in layers. The patient passed safely through a period of unusually severe shock and the wound continued to be packed with gauze. On June 15th the escape of pus from the wound and the discovery of a tender swelling on bimanual examination to the right of and above the cervix uteri pointed to an abscess forming in connexion with the ureteral injury. A rubber tube was now substituted for the gauze and this led down in the direction of the swelling. The abscess apparently continued to refill and discharge itself at intervals till July 10th, when a suspicion arose that urine was mixed with the pus from the abdominal opening. A week later there was no doubt, and about July 24th, coinciding with the disappearance of a severe pain in the

right iliac region, with a fresh discharge of pus and a fall of temperature to normal, an unmistakeable urinary fistula developed. The quantities of urine passed each day through the bladder from July 24th to 31st inclusive were as follows—viz.: 12 ounces, 10 ounces, 11 ounces, 13 ounces, eight ounces, 12 ounces, 10 ounces, and six ounces, and that passed from the fistula into the dressings was estimated on July 30th and 31st as 10½ ounces and 21½ ounces respectively. On August 1st the large drainage-tube which had been used was changed for one of smaller calibre but of equal length. This was immediately followed by a marked diminution in the escape of urine by the fistula and a large increase in that passed by the bladder (on July 31st it was six ounces; on August 1st and subsequent days it was 38 ounces, 44 ounces, 48 ounces, 40 ounces, 42 ounces, and 44 ounces). By August 6th the urinary fistula had closed and a pill of methyl blue, whilst staining the bladder urine, produced no effect on the discharge from the abdominal wound, in striking contrast to what had taken place on July 31st when the same test had been applied. From this date the fistula remained closed, the tube was gradually removed, and on Oct. 1st the patient was well and in good condition. There was no abdominal induration and the right kidney could not be distinguished. The patient was seen on May 5th, 1899—nearly a year after the operation. She was quite well and following her usual occupations and the right kidney could not be felt. Though she was somewhat stout there would have been no difficulty in detecting it had it formed a swelling of only moderate proportions.

The point of special interest in this case is the long period—seven weeks—which elapsed between the operation and the development of the urinary fistula. No doubt the abscess was due to slight leakage, but from the remarkable effect produced by the change of tube the inference is natural that the fistulous opening was made larger and practically all the urine from the right kidney directed through it by the pressure produced by the tube upon the ureter below. The rapid closure of the fistula and the immediate large increase in the urine passed through the bladder when that pressure was removed show that two months after the operation no stenosis could have resulted from the inflammatory tissue which had been formed—at least, in that part of the ureter below the wound. Quite possibly, too, the fistulous opening may have been promoted by the gauze packing and the injury to the deposits of lymph which its removal may have caused, but at the time of the operation the union seemed so likely to permit leakage of such a fluid as urine that it was not considered safe to trust it without safeguarding it by a drain, especially as it was impossible to surround it with a peritoneal covering.

A review of the work done in connexion with ureteral wounds cannot fail to notice how nearly all of it has been carried out in America or in foreign countries and how little Britain has contributed to it. The subject is one which has been largely elucidated by the help of experiments and this to some extent no doubt explains why so little attention has been paid to it in this country and why so small a quantity of English literature is devoted to it. It will be seen from the subjoined lists of published cases that there have been 12 cases of complete and five of partial division of a ureter where restoration of the duct has been carried out (uretero-ureteral anastomosis) and seven other cases of complete section in which the upper end of the severed ureter was grafted into the bladder. All these injuries occurred in the course of serious operations and were dealt with during their progress, but in the remaining five cases in Table II. bladder implantation was performed as a secondary operation for fistula in some, or as a primary measure for relief of a congenital defect in others. Of all these cases only four died and in every instance the result was quite independent of the ureteral injury. From this it might be imagined that a wound of a ureter is a trivial affair, but inasmuch as injury of these ducts only takes place in operations of great severity, in which a fatal issue is not improbable even without this complication, it is practically certain that the lists are not complete and it is possible that in some of the unpublished and fatal cases the ureteral wound, notwithstanding the treatment adopted, may have directly contributed to the result.

Of the several ways of dealing with injuries to the ureters received in the course of surgical operations the reunion of the separated ends—or uretero-ureteral anastomosis (*vide* Table I.), as it is called—and transplantation of the upper end into the bladder are the two methods which aim at a permanent remedy. Grafting upon the skin or into the vagina should be looked upon as merely temporary expedients and nephrectomy as a final resort only to be adopted under certain serious and exceptional conditions. Of the plans which have at different times been suggested ligation of the ureter deserves some notice, and implantation into the bowel should not be passed over lest it should escape condemnation (*vide* Table III.). Lastly, diagnostic ureterotomy, as introduced by Kelly, is so intimately connected with the subject that it may fairly be included within the scope of this article.

UNION OF THE DIVIDED ENDS OR URETERO-URETERAL ANASTOMOSIS.

This operation has been carried out in three essentially different ways.

1. *The end-to-end method* consists in the approximation by suture of the transversely or obliquely (Bovée) divided ends, the mucous coat not being pierced. It was employed in the earlier cases of the series. Though the results were apparently satisfactory it seems to have given place to the two following operations which are more easy of performance and probably less likely to be followed by leakage.

2. *The lateral implantation method of Van Hook.*—This is easy to understand from a diagram but rather complicated to describe. (*a*) The cut end of the vesical segment is ligatured; (*b*) a quarter of an inch below the ligature a longitudinal opening is made into the ureter twice its diameter in length; (*c*) the open end of the upper segment is split longitudinally to prevent cicatricial contraction; (*d*) two fine sewing-needles threaded at opposite ends of a piece of catgut transfix from without inwards the lower extremity of the upper segment opposite the split ("traction suture"); (*e*) the needles are then passed through the longitudinal incision in the lower segment and made to transfix the ureteral wall from within outwards a little distance below; (*f*) the upper end is now drawn by this suture through the opening in the lower segment and fixed by tying the ends of the traction suture (the anastomosis may be strengthened by a few additional sutures); and (*g*) finally, the union is enclosed or covered by folds of peritoneum or by a detached omental graft. Bloodgood has figured a specimen resulting from an experiment showing that after this operation the mucous lining becomes continuous and no constriction of the canal results.[1] It would also appear that no leakage takes place and that the abdomen may be closed without drainage.[2]

3. *In the end-in-end method* the upper extremity is invaginated into the lower end, which is split longitudinally for half an inch to permit it. The union is then made firm by sutures. This method was introduced by Poggi of Bologna in experiments on dogs, and Mayo Robson, who at the time was not aware of Poggi's work, first employed it in the human subject. Van Hook's method has been used three times and the end-in-end twice and all have been equally successful

Of the five cases of partial division all have been treated by direct suture. Of these, two died from the effects of the severe operation they had undergone, but in two of the remaining three leakage took place, a point which rather tells against the end-to-end method for complete division. Should subsequent cases show no better results from direct suture in partial transverse wounds it would be better to complete the section and restore the tube by Van Hook's or the end-in-end method. There is only one definite piece of evidence of the eventual effect of these operations upon the kidney. In Schopf's case at the end of five weeks the kidney was found to be hydronephotic and the seat of union embedded in cicatricial tissue. There is, however, sufficient presumptive evidence in favour of the belief that stenosis does not occur frequently from the long periods which have elapsed after the operation in which the patients have been known to be in good health (Kelly's three years, Cushing's five years, Robson's six months, Bovée's 11 months, and my own case almost a year).

IMPLANTATION INTO THE BLADDER.

Of this operation I have been able to find published records of seven cases performed by abdominal operation

[1] Annals of Surgery, 1894, vol. xix., p. 70.

[2] For diagrams illustrating Van Hook's method and Bovée's oblique end-to-end method, vide H. Morris's Hunterian Lectures, Brit. Med. Jour., April 2nd, 1898, p. 873. I am considerably indebted to these lectures and especially for the description of Van Hook's operation.

TABLE I.—WOUNDS OF THE URETER—URETERO-URETERAL ANASTOMOSIS.

Complete Division.

Date.	Name.	Method.	Drainage, &c.	Results.
1886	Schopf: Bovée's paper, Annals of Surgery, 1897, vol. xxv., p. 57.	End-to-end; eight silk sutures.	Abdomen closed.	Death in seven weeks from tuberculosis. Pelvis of kidney distended; ureter embedded in cicatricial tissue.
,,	Tauffer: Bovée's paper, *vide supra*.	End-to-end; from six to eight sutures over No. 8 catheter, which was removed.	Drainage, glass tube and vaginal.	—
,,	Tauffer: Bovée's paper.	Do.	—	—
,,	Fritsch: Bovée's paper.	End-to-end; fine intestinal suture.	—	—
1890	Hochenegg: Bovée's paper.	End-to-end.	—	Sacral operation; hysterectomy for cancer. Death on the twentieth day from hæmorrhage. Ureter suture intact.
1893	H. H. Kelly: Annals of Surgery, 1894, vol. xix., p. 70.	Van Hook's lateral implantation; oblique section of the upper end to avoid contraction of its orifice. Van Hook's paper, March 4th, 1893. Kelly's operation, May 1st, 1893.	Gauze drain; no leakage.	In good health three years after. Kelly's Operative Gynæcology, vol. i., p. 466.
1893 (published)	E. W. Cushing: Abstract, Annals of Surgery, 1894, vol. xix., p. 757.	End-to-end; sewn together with two silk sutures, one catgut.	Gauze and glass tube drainage.	Fistula developed from the fourth day and closed in nine months. Perfect in result five years later. Bovée: Annals of Surgery, 1897, vol. xxvi., p. 317.
1894	B. Emmett: American Journal of Obstetrics, April, 1895, vol. xxxi., p. 449.	Van Hook's; modification to get dilated upper end into lower.	No drainage; catheter in bladder six days.	—
,,	Doherty (Bovée's paper): quoted from Van Hook.	Van Hook's.	—	—
1896 (published)	Mayo Robson: Bovée's paper.	End-in-end; two inches of ureter removed in operation.	—	Well six months later.
1896	Wesley Bovée: Annals of Surgery, 1897, vol. xxv., p. 61.	Oblique end-to-end; one inch shortening.	No drainage; catheter every six hours.	Well 11 months later. Bovée: Annals of Surgery, vol. xxvi., p. 317.
1897	R. Winslow: Annals of Surgery, January, 1898, vol. xxvii., p. 46.	End-in-end; two traction sutures used.	—	—

Partial Division.

1888	Pawlik: Bovée's paper.	Double row (Lembert) of silk sutures over ureteral catheter, which was left in; covering of peritoneum.	Half divided.	Death in 14 hours from shock. Ureter satisfactory. No leakage.
1895 (published)	Westermark: Annals of Surgery, 1896, vol. xxiii., p. 339.	Direct suture.	—	Sacral hysterectomy. Primary union of ureter.
1897	H. Morris: Hunterian Lectures, Brit. Med. Jour., 1898, vol. i., p. 878.	Fine silk sutures *à la* Lembert; peritoneal covering.	Three parts divided.	Death in 51 hours. Union secure at post-mortem examination.
1898 (published)	Hindley: Quoted by Winslow, Annals of Surgery, Jan., 1898, vol. xxvii., p. 46.	Sutured.	—	Two weeks later a urinous infiltration into the broad ligament was opened from the vagina and drained.
1898	Lawford Knaggs.	Sutured; Lembert.	Half divided; gauze and glass tube drainage.	Urinary fistula formed seven weeks after operation; closed quickly. Well 11½ months after.

All the patients recovered except those in whose cases an opposite result is stated. The initial operation was for an abdominal tumour in every instance, except where a sacral operation is mentioned as having been performed.

and five by other routes. Seven of them (four abdominal and three various) have been performed at once for injury during operations for disease. Three have been done for ureteral fistula resulting from a previous operation and two for incontinence arising from an accessory ureter. The procedures which have been employed vary, but they may be classified into three groups. 1. The method used by Paoli and Busachi in their successful experiments upon dogs consisted in splitting the end of the ureter and suturing it to the incision in the bladder. This corresponds to the end-to-end method in uretero-ureteral anastomosis. 2. Implantation of the end of the ureter through a small opening into the bladder and fixing it there in a variety of ways. Van Hook's traction sutures have been used several times and where details are given it would seem that careful suturing in the vicinity of the wound was a frequent accompaniment. 3. Extra-peritoneal implantation as performed by Witzel (*vide* Table II.) not only introduces a completely new feature but also a novel method of implantation by which the ureter is made to take an oblique course through muscular bladder tissue. According to Budinger, by this plan leakage is prevented because with distension of the bladder the channel of the ureter must become obliterated, and stricture at the point of entry, which frequently takes place from the number of sutures usually employed, is avoided.[3]

[3] Annals of Surgery, Abstract, vol. xxi., p. 223.

It is of interest to notice that in the abdominal operations Paoli and Busachi's method, which was the first to be employed, gave way to implantation which was performed in the last six of the series of seven. Moreover, no leakage took place in any of the cases of implantation, but in the case in which Paoli and Busachi's method was used it did. In the second group of cases the details are not sufficiently clear to justify an attempt at classification. Nor is it possible to make any positive statement with regard to the question of subsequent stenosis and consequent hydronephrosis, but the very absence of information is not without its value. All the recorded cases have been successful, but it is clear that the operation of choice is implantation, which can be carried out so satisfactorily as to render drainage of the abdominal wound unnecessary. It has been pointed out that after implantation there is nothing to prevent regurgitation of urine along the ureter, but this need not trouble us till it is shown to be a danger, for it is quite possible that the peristaltic power of the tube may arrange itself to meet the difficulty, and when the bladder contracts the muscular action will close the orifice of the canal and prevent it.

THE AMOUNT OF SHORTENING.

Under the complicated conditions which in many cases have led up to the necessity for repair of a ureter it has happened occasionally that a certain amount of the tube has been sacrificed (in Robson's case two inches and in Bovée's

one inch) or that a certain portion has been rendered useless for operative purposes from being embedded in cicatricial tissue. Though the ureter is capable of considerable stretching and Robson found no difficulty in invaginating the upper into the lower end in his case because the tube was so dilated and elongated, yet there have been occasions, chiefly in cases of implantation into the bladder, in which the strain has made it necessary to adopt measures to avoid it. And the possibility of having to meet a serious deficiency in length has led to a variety of experiments to test the feasibility of the ideas suggested for overcoming it. The following plans have been tried in the human being: (1) Kelly cut away the bladder from its attachment in front and at the sides so that it lay loose on the pelvic floor; (2) Baldy fixed the bladder by suture to the pelvic wall, close to the stump of the ovarian artery; and (3) Witzel, in his extra-peritoneal

TABLE II.—CASES OF IMPLANTATION OF THE URETER INTO THE BLADDER.

Abdominal Operations.

Date.	Name.	Method.	Result.	Drainage, &c.	Condition for which the initial operation was undertaken.
1893 (published)	Novaro, quoted by Fenger: Annals of Surgery, 1894, vol. xx., p. 257.	Paoli and Busachi's. Distal end of ureter split and united by suture to incision in the bladder.	R.	Gauze drain; leakage of urine for several days.	Uretero-vaginal fistula following hysterectomy for carcinoma.
1894	H. A. Kelly: Kelly's Operative Gynæcology, vol. i., p. 461, and Johns Hopkins Hospital Bulletin, February, 1895.	End of ureter split; drawn through small incision in the bladder (4 mm.) by forceps passed through the urethra, across the bladder, and through the incision. Six interrupted sutures fastened the muscular tissue of the bladder to the outer coats of the ureter. The bladder was cut away from its attachments in the front and sides to enable approximation to be made.	R.	Gauze drain; no leakage.	Uretero-vaginal fistula resulting from vaginal hysterectomy for carcinoma.
1894 (published)	Krug: American Gynæcological and Obstetrical Journal, November, 1894; Abstract, Annals of Surgery, 1895, vol. xxi., p. 224.	Distal end of the ureter split and inserted by traction sutures as in Van Hook's method of uretero-ureterostomy; careful closure of the bladder.	R.	Abdominal wound closed; catheter in bladder four days; cystocope has since proved patency of implanted ureter.	Intra-ligamentous uterine fibroid; hysterectomy.
1894 (published)	C. B. Penrose: Annals of Surgery, 1894, vol. xix., p. 698.	Distal end implanted through an incision half an inch long by means of Van Hook's traction sutures (two). Peritoneum covering ureter was drawn down and sutured to the peritoneum over the bladder.	R.	No drainage; catheter in bladder three days.	Carcinoma uteri involving the left ureter; one inch excised; abdominal hysterectomy.
1896 (published)	J. M. Baldy: American Journal of Obstetrics, March, 1896; Abstract, Annals of Surgery, 1896, vol. xxiv., p. 767.	Ureter implanted by two Van Hook traction sutures. The bladder wound was closed in three layers by continuous catgut sutures which were also made to fix the ureter. There was considerable tension on the ureter, so the bladder was fixed by suture to the pelvic wall close to the stump of the ovarian artery.	R.	Glass drainage tube; removed on third day. Catheter every four hours.	Right ureter was torn across in enucleation of an intra-ligamentary cyst. Tumour and uterus were removed.
1896 (published)	Witzel: Centralblatt für Gynäkologie, 1896, No. 11. Kelly's Operative Gynæcology, vol. i., p. 464.	Ureter traced from the pelvic brim and divided at the middle of the broad ligament. The lower end was closed. The upper end was drawn beneath the peritoneum above the innominate line by long forceps started upwards under the peritoneum to the right of the bladder. The peritoneal incision was closed. The remaining proceedings were extra-peritoneal. The bladder was pulled up and attached on the right side until the ureter, cut obliquely, could be implanted on the same principle as in Witzel's method of gastrostomy—by oblique channel made by uniting folds of bladder walls on each side over the ureter.	R.	Bladder drained.	Uretero-vaginal fistula for which vaginal operation had failed.
	Anna Fullerton, quoted by Kelly: Operative Gynæcology, vol. i., p. 463.	Double ureter divided accidentally. Vesical ends ligated. Both orifices were introduced into the bladder by a common opening.	R.	—	Double pyosalpinx.

Sacral, Vaginal, and Vesical Operations.

1894 (May 2nd)	Westermark: Annals of Surgery, 1896, vol. xxiii., p. 338.	Sacral incision. Cut end of ureter was sutured into the partially closed defect in the bladder. A double row of sutures were so arranged that the sides of the ureter were united with the sides of the bladder.	R.	Well, Feb. 9th, 1895.	Carcinoma uteri in which the bladder and left ureter were involved. Removal of affected parts.
—	Abbe: Annals of Surgery, 1894, vol. xx., p. 183.	Sacral incision. Ureter inserted into the vesical pouch.	R.	No leakage. Patient believed to be cured.	Supposed abscess; really foul vesical pouch; ureter torn.
—	Davenport, quoted by Fenger: Annals of Surgery, 1894, vol. xx., p. 237.	Vaginal operation. Ureter displaced and the orifice implanted into the bladder.	R.	—	Ureter opening close to the external orifice of the urethra lying in vesico-vaginal septum and causing incontinence.
1892 (published)	Baumin: Annals of Surgery, 1894, vol. xx., p. 236 (Fenger's paper).	Bladder opened (suprapubic); misplaced ureter divided; distal end ligated; proximal end connected with bladder; operation extra-peritoneal.	R.	This operation was chosen because the patient was a virgin.	Accessory ureter opening into urethra and causing incontinence.
1896	E. Kuster: Abstract, Annals of Surgery, 1897, vol. xxv., p. 663. Verhandlungen der Deutschen Gesellschaft für Chirurgie, Twenty-fifth Congress, 1896.	A man, aged 32 years. Suprapubic section, evidently cystotomy. Removal of a large portion of bladder-wall and several centimetres of ureter. Ureter sutured in the upper angle of the bladder defect which was then sutured throughout. The bladder was left open for secondary suture.	R.	—	Growth of bladder.

It has not been thought worth while to separate the cases into groups, but in two cases the operation was performed for a congenital condition and not for injury immediate or remote.

implantation, pulled the bladder up and attached it on the right side. These proceedings answered the requirements in each case. The experiments which have been performed with this object are of interest.

1. Monari (*a*) has fastened both ends of the ureter into the external wound under considerable tension; a month later the portions had so stretched as to permit of anastomosis; and (*b*) in another experiment he anastomosed a ureter divided near the bladder with that of the opposite side. Though the experiment was considered a success, when the animal was killed four months after operation yet the ureter had been compressed at the hole which had been bored in the mesentery for its passage.[4] This is hardly likely to be of practical utility, for what surgeon would care to tamper with the sound ureter in such cases?

2. Wesley Bovée has tried to meet a deficiency of three or more inches by bringing down the kidney and fixing it at the level of the iliac crest. From two experiments on dogs he concludes that the operation is a practical one.[5]

3. Rydygier has proposed to implant both ends on the abdominal wall and fashion a connecting channel from skin between them. It hardly needs the observation of Emmett, that "either the distal end atrophies and becomes useless or it is found that no tissue that can be utilised to connect the two can serve as a carrier of urine," to make us look askance at such a plan.[6]

5. Lastly, Van Hook suggested the creation of a diverticulum from the bladder which should be placed in the abdominal wall and be long enough to meet the upper end of the ureter. Witzel's operation was of this nature.[7]

PRACTICAL POINTS AND THE CHOICE OF OPERATION.

There are some practical points in connexion with these operations which deserve special mention. 1. Van Hook pointed out the great elasticity of the ureters which permitted them to be stretched or dilated to a considerable extent. There is no need to emphasise the importance of this fact. 2. Oblique section of a ureter so as to give a larger sectional area and diminish the liability to stenosis may be adopted under many different conditions. In implantation the grafted end is split for the same reason. 3. Lastly, in bladder implantation the extremity of the vesical portion of the ureter should be tied, as leakage of urine from the bladder has been known to take place from it.[8]

As operations uretero-ureteral anastomosis and implantation into the bladder have each their proper sphere. Kelly puts the matter concisely in this way: "When the ureter is cut far enough back from the bladder to permit an anastomosis of the upper into the lower end the distance between the upper end and the bladder is too great to allow a ureterocystotomy to be considered. Where, on the other hand, the ureter is cut near enough to the bladder to allow the upper end to be turned into the bladder it will be found that the lower end is so short and awkwardly placed that a uretero-ureteral anastomosis is not to be thought of. There is but one class of case in which the procedure is elective, that is when the ureter has become lengthened and dilated by displacement upwards over a uterine myoma. I would in this case elect to do a uretero-ureteral anastomosis if the ureter were dilated or a uretero-cystotomy if it were of normal calibre."[9]

Grafting on to the skin or into the vagina are to be regarded as temporary or palliative procedures. Either may have to be adopted when the patient's condition necessitates rapid conclusion of the operation or where insuperable difficulties prevent approximation of the two ends. The vaginal fistula in the future will in most instances be most easily and satisfactorily dealt with by an abdominal uretero-cystotomy and it is quite possible that the inconveniences and dangers of one opening upon the skin may be surmounted upon the lines already described or suggested without the sacrifice of the kidney. Indeed, nephrectomy, formerly not infrequently performed for ureteral fistula, will in the future only be admissible in very exceptional cases, or when septic infection of a single kidney has resulted from a ureteral fistula, or a ureteral operation, and even then possibly after less radical measures have failed to relieve.

TABLE III.—CASES OF IMPLANTATION OF THE URETER INTO THE BOWEL.

Date.	Name.	Method, &c.	Result.	Why performed.
1852. (?)	Simon: Surgical Treatment of Children's Diseases, Holmes, p. 147.	Loop of thread, passed in an ingenious manner, made to ulcerate through contiguous portions of ureter and rectum. Communication resulted. Urine escaped by the skin although the fistula remained patent.	Death one year after operation. Suppurating pyelitis on both sides.	For exstrophy of the bladder.
1878.	T. Smith: St. Bartholomew's Hospital Reports, 1879, vol. xv., p. 29.	Each ureter inserted into the back of the colon on the corresponding side. Operation on the second ureter 14 months after operation on the first; fatal in 24 hours.	Necropsy.—Left kidney: hydronephrosis from stenosis—a probe passed along the ureter would not enter the bowel. Right kidney: obstruction to the passage of urine at junction with bowel. Kidney showed chronic changes.	For exstrophy of the bladder.
—	Kuster: Annals of Surgery, 1894, vol. xx., p. 193.	Both ureters into the rectum.	Death; purulent peritonitis; sutures did not hold; renal infection.	Cystectomy for cancer.
1892, September.	Chaput: Annals of Surgery, 1894, vol. xx., p. 193.	Ureter dilated; junction made with posterior surface of the colon on the left side.	Successful; drain in posterior peritoneal space. 12 months after there was no sign of infection.	For uretero-vaginal fistula left after operation for vaginal hysterectomy.
1892, November.	Chaput: Annals of Surgery, 1894, vol. xx., p. 193.	The first ureter was successfully implanted; the second ureter was implanted three months later.	Death occurred the same day. There was no necropsy. The patient became comatose; there was suppression of urine, the watery motions ceasing.	For tuberculous cystitis and vesical fistula following operation.

Implantation into bowel.—Great hopes were entertained at one time that the difficulties of treating divided ureters would be settled in this way. Many names are associated with the experimental surgery of implantation of the ureters into intestine, but it must be admitted that the results have been disastrous. As evidence of this it will be sufficient to quote the experience of Harvey Reed. Of six bilateral implantations in animals all died, the causes of death being acute peritonitis, nephritis with some obstruction, and hydronephrosis. Of three unilateral operations one told nothing as the post-mortem examination was spoilt, one had nephritis and hydronephrosis when killed, and one was satisfactory when killed on the twenty-fifth day.[10] Nor are the results of the operation in the human being more satisfactory, as will be seen by a study of the accompanying table (Table III.) of all the published cases in which this method has been adopted for any cause whatever. The frequency with which failure resulted from septic infection of the kidney, both in the experiments and in the cases, is only what our present knowledge would lead us to expect, but in addition to this, constriction was often found to result at the seat of the implantation. An improved operative technique might have overcome the latter difficulty, but the inability to avoid kidney infection has prevented grafting into the

[4] Ibid., vol. xxv., p. 379.
[5] Ibid., 1897, vol. xxvi., p. 318.
[6] Fenger's paper, ibid., 1894, vol. xx., p. 257.
[7] Ibid.
[8] Mollinsky and Pozzi report cases; Bovée's paper, Annals of Surgery, vol. xxv., p. 73.
[9] Operative Gynæcology, vol. i., p. 459.
[10] Annals of Surgery, 1892, vol. xvi., p. 200.

colon or other portion of the bowel attaining the position of a sound surgical measure. With the satisfactory results which can now be obtained by uretero-ureteral anastomosis and uretero-cystotomy it is safe to conclude that implantation into the bowel has been relegated to the limbo of oblivion.

Ligation of the ureter.—Nor is it likely that ligation of the ureter will ever have a practical value in ureteral wounds. Guyon suggested it as a substitute for nephrectomy in these cases to save an undue prolongation of the operation,[11] for as soon as the distension pressure in the pelvis and ureter equals the blood-pressure the secretion of urine ceases and experiments tend to show that atrophy of the kidney results. For this to occur, however, the urine must be aseptic, or a pyonephrosis will develop, and, needless to say, the presence of a second kidney is essential. One fact, however, is interesting. By ligation of the ureter the function of the kidney may be kept in abeyance for a period without obvious harm. Thus, Robinson[12] quotes the case of a woman in whom the ureter of one side was ligatured for six weeks. At the end of that time the ligature was removed and the kidney resumed its function as before. And whoever has watched a ureteral fistula develop on the separation of the ligatures in vaginal hysterectomy has seen the same fact accidentally demonstrated. Simple as the proceeding is, it does not appear to be at all free from the risk of miscarriage, and this uncertainty as to risk and eventual result outweighs any advantage which the ease of its performance might give it in the rare cases in which it might be made use of.

DIAGNOSTIC URETEROTOMY.

The subject of ureteral injuries should not be dismissed without reference to a plan known as "diagnostic ureterotomy" which has been introduced by Dr. Howard Kelly whose labours have done so much to advance this department of surgery. In four operations in which he had reason to fear that he had included a ureter in a mass of ligatured tissue he exposed the ureter at the pelvic brim, made a longitudinal incision into it, and passed a ureteral sound down towards the bladder. In two cases he found the ureter free, but in the other two the sound stopped short at the ligated area. The ligatures were removed and the sound passed on into the bladder. The incision was closed with mattress sutures and though in three at least of the cases a gauze drain was used no leakage took place and no trouble resulted either from the temporary ligation of the ureter or from the operation.[13] As Mr. Henry Morris points out in his interesting Hunterian Lectures the general tendency of advance in renal surgery is in the direction of conservatism. The first nephrectomy was performed by Simon 30 years ago for ureteral fistula and injured ureters were at first treated in the same way. With the gradual growth of ureteral surgery nephrectomy has fallen into the background and in the case of wounds will be very rarely justifiable. And diagnostic ureterotomy, inasmuch as it aims at the prevention of wounds or the avoidance of the suppression of the functional activity of one kidney, is a step in the same direction.

Leeds.

INTESTINAL OBSTRUCTION.[1]

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WHEN I promised to read a paper before the Swansea Medical Society it was with many misgivings, and in appearing before you to-night it is not with the idea of saying anything new but rather with a view of inviting discussion and eliciting your opinions. For it is written that "in the multitude of counsellors there is safety," even though it may be the counsellors only who are safe.

The subject of abdominal surgery is one which has engrossed the minds of medical men during the last few years more than any other subject in medicine, excepting perhaps that of bacteriology. Within the cavity of the abdomen are contained many and most important organs, not the least of which is the alimentary canal, the functions of which are associated with much of the joy and misery of this life. But it is not so much with the functions of the bowel that we are concerned to-night as with stoppage of the vital though turbid stream within it. The subject of obstruction is not the least important of those which fall within the domain of abdominal surgery, and though much has been written and said concerning it I hope you will bear with me while I endeavour to lay before you certain facts which may in some slight way serve to increase your interest in the matter.

The causes of obstruction are so varied and their mode of action so complicated that it is impossible in a short paper like this to do more than mention some of them. They may be arranged under three heads: (1) those in the bowel; (2) those in the bowel-wall; and (3) those outside the bowel-wall. Those in the bowel are: (*a*) concretions, intestinal or biliary; (*b*) fæcal accumulations; (*c*) foreign bodies; and (*d*) tumours. Those in the bowel-wall are: (*a*) cicatricial stricture; (*b*) stricture due to tumours, simple or malignant; (*c*) twists; and (*d*) intussusception. Those outside the bowel-wall are: (*a*) bands inflammatory or other, adhesions whether binding the gut to other organs or surrounding it, and kinking; (*b*) stenosis produced by holes in the mesentery or omentum, internal herniæ; and (*c*) occlusion by fœtal remains, as Meckel's diverticulum. Lastly, there is an important group which is quite distinct from these—viz., hernia of omentum, strangulated ovarian cyst, orchitis in an undescended testicle, crushed testicle, inflamed hydrocele, phlegmon of the upper part of the abdominal wall, perforating gastric ulcer, paralysis of the bowel, appendicitis, and peritonitis. With the subject of external hernia I do not propose to deal.

It has been stated that the cause of obstruction may be in three positions as regards the wall of the bowel. It may also be in three positions as regards the length of the gut. It may be low down in the second half of the large intestine; it may be high up in the small intestine—jejunum; or it may be intermediate in position, say in the lower part of the ileum. It may, again, be acute or chronic.

It is often complained that too much is made of the pathological aspect and mechanism of conditions which are met with by the busy practitioner and not enough of the signs and symptoms by which these conditions may be recognised and treated. Now it is not my intention to burden you with an account of conditions which can only be made out in the post-mortem room, but rather to dwell upon the signs and symptoms by which obstruction may be recognised. For upon the recognition—nay, upon the early recognition—of the case depends the treatment and the safety of the patient.

Let us look for a moment at the classical symptoms of obstruction with which you are all familiar. We find that they consist of pain, of fæcal vomiting, of stoppage of the bowels both to wind and more palpable material, sometimes preceded by spurious diarrhœa, of swelling of the abdomen or meteorism consequent upon which there is more or less difficulty of breathing, alteration of pulse, furred tongue, scanty urine, and general depression. I think it may be taken as an axiom that all patients who have these symptoms have obstruction, but all who have obstruction have not these symptoms and it is to draw your attention to these cases that I have ventured to address you to-night. When we consider the classical symptoms we are struck with the fact that in many cases of obstruction there is not the condition of obstruction only to deal with, but that there are really two conditions—viz., obstruction *plus* strangulation—and, further, that strangulation is by far the most urgent condition. Let us consider the classic symptoms individually.

Pain is one of the earliest symptoms to appear and it is one which it is well worth while to study carefully. Its origin is twofold. It is due (1) to the direct injury caused to the tissues by the constricting agent, and (2) to the violent, irregular, and futile peristaltic action of the bowel. It is colicky and paroxysmal in character and though it is produced at varying points in the abdomen, yet there is a singular uniformity as to the position in which it is felt. It is felt in the region of the umbilicus. It is relieved by pressure and is generally unassociated with tenderness. It varies in amount at different times and one feature of special importance is that it

[11] Emmett's paper: American Journal of Obstetrics, 1895, vol. xxi., p. 449.

[12] Annals of Surgery, 1893, vol. xviii., p. 507.

[13] Johns Hopkins Hospital Bulletin, December, 1894. Kelly: Operative Gynæcology, vol. i., p. 465.

[1] An address delivered before the Swansea Medical Society on Jan. 24th, 1899.

may be constant with exacerbations or it may ntermit so that there are intervals of complete freedom. It was first pointed out by Treves that the intermittent type of pain is found in those cases where the occlusion of the bowel is incomplete and that the constant type of pain is found in those cases where the occlusion is absolute. The pain has a direct relation to the constitutional depression. In fact, those patients who feel pain most acutely are the ones who show the depression most markedly. Vomiting varies in amount in different cases and varies as to the period of its occurrence. It is greatest when the obstruction is near the stomach and it is least when the obstruction is far removed from it. It is a very distressing symptom and it rarely affords the patient any relief. It may be incessant or it may occur at intervals and in a few cases it is absent altogether. The vomited matters consist of the contents of the stomach and intestine as far as the obstruction, sometimes beyond it. In such cases it is supposed that the obstruction has relaxed for a brief space and allowed some of the contents below that point to regurgitate. It is accompanied by thirst which varies directly with the vomiting. Constipation is absolute when the occlusion is complete. It is said that it may be preceded by diarrhœa, but of the recorded cases it is found that only about 2 per cent. have had a spontaneous evacuation of the bowels when once the occlusion has become complete, even though it be situated high up in the small intestine. The tongue varies. It may be clean or furred, but as the case goes on it becomes dry and brown. Owing to the contents of the bowel being unduly retained and owing to altered nerve action fermentation of the contents takes place with the liberation of gas and consequent distension of the abdomen. In some cases this may attain so excessive a degree that the breathing may become greatly embarrassed and the patient may complain of "feeling as if he would burst." Prostration usually occurs early in a case of strangulation and it may rapidly deepen into fatal collapse. The face is drawn, pinched, and anxious, the eyes are sunken, the voice is feeble, the surface of the skin is cold and is bathed with sweat, but the intelligence remains clear to the last. The pulse is small, rapid, and feeble, ranging from 120 to 140. The temperature is commonly lowered, being subnormal, and even the occurrence of peritonitis may be insufficient to bring it up to the normal level, though it may be influenced by treatment, as may be the pulse and vomiting. But of that more will be said later. The respirations are increased in frequency and they are superficial and often supracostal, and are embarrassed by the distension. The urine is scanty and high-coloured and in some cases it may be actually suppressed when there is great collapse.

To return now to the main subject let us look at the anatomical regions where obstruction occurs. First, in the small intestine it may be due to loops, bands, or internal herniæ. The greater mobility of this part of the bowel favours this form of lesion. Secondly, in the cæcal region it is more commonly due to herniæ, concretions, accumulations, growths, or appendix. Thirdly, in the large intestine it is usually due to growths, twists, or intussusception. Now, it is impossible that all these different anatomical regions when obstructed can give rise to the same clinical symptoms, for we know that the symptoms produced by disease, in many cases at all events, are due to physical causes, and in practice we find that the symptoms vary with the site of the lesion. And if we are to treat these cases rationally we must endeavour to appreciate the varying phenomena in each case. I believe that cases of obstruction may be divided into three great classes or types which in their well-marked forms are clearly and distinctly separated but which merge into one another by insensible gradations and that for certain anatomical and physiological reasons which will be apparent to all.

Take a case of stricture of the large intestine in its second half and we do not find the classical symptoms. The patient is constipated, he passes little or no flatus, and he has little or no vomiting and that may never become fæcal or only so towards the close. He suffers little pain, he eructates a quantity of wind, he has distension, and his appetite is lost. Again, take a case of obstruction high up in the small intestine and we find that the patient presents a totally different set of symptoms. He has pain, he vomits but the vomit is not fæcal, he may pass some flatus, and the bowels may act in such a manner as to put us off our guard. A part of the symptoms presented by a patient with obstruction are dependent upon the amount of bowel there is above the obstruction to be gorged and the length of gut below that point which may be evacuated. The patient cannot have fæcal vomiting if the upper part of his bowel does not contain fæcal matter. Let us see if the three types of which I spoke can be differentiated clinically.

1. Take a case of obstruction low down in the second half of the large intestine. I cannot do better than mention a case of this kind lately under my care. The patient complained of pain in the region of the umbilicus which was worse after taking food; the abdomen was distended till she could scarcely breathe; the bowels would not act satisfactorily; she eructated a quantity of flatus but passed none; she felt sick and brought up most of the food she took, but the vomit was never fæcal—once only it was like beef-tea grounds but it was not offensive. The tongue was furred, the abdomen was distended and tympanitic all over and globular in shape—i.e., it was bulging in the flanks as well as forwards. Per rectum there was a feeling of resistance to be made out high up, but nothing definite, and enemata gave no relief. In this case the only definite symptoms were globular distension of the abdomen, failure of the bowels to act, and umbilical pain. The furred tongue was of no value and there was a complete absence of constitutional symptoms. The case was one of stricture of the sigmoid.

2. In the second type the symptoms are somewhat different. Take a case of obstruction low down in the small intestine in the neighbourhood of the ileo-cæcal valve. We find the patient has umbilical pain, vomiting which rapidly becomes fæcal, furred tongue which soon becomes dry and brown, and distension of the abdomen, the bulging being chiefly forwards with little or none in the flanks; indeed, the flanks may be quite flat. The abdomen may be tympanitic throughout and rectal examination may elicit nothing worthy of note. The bowels may act a little with enemata and a little flatus may be passed, but not satisfactorily. This class of case is usually more urgent than the last mentioned. The case from which these notes were taken died from acute obstruction in 48 hours.

3. Next let us study a case where the obstruction is high up in the small intestine, say in the jejunum. It must be admitted that simple obstruction here is very rare and we must take as an example a case with that other condition superadded—viz., strangulation. The case is always an acute one. The patient has intense pain in the region of the umbilicus, soon followed by vomiting which does not become fæcal though it may be disagreeable. The tongue may be furred, but it rapidly becomes dry and brown, the bowels do not act, and the constipation is absolute. Examination per rectum may afford no useful information. The abdomen is tympanitic throughout, but the contour is unaltered; it presents to the eye no obvious difference in shape from the normal healthy abdomen of the same individual. In addition the patient presents all those symptoms of profound constitutional depression which have been already referred to and need not now detain us.

In all three types there is pain in the region of the umbilicus and in types 1 and 2 there may be some tender spot or resistance to be felt per rectum. In the first type there is great distension of the abdomen, the bulging being both forwards and lateral, and there is little vomiting; in the second type there is distension of the abdomen, but less than in the first type, the bulging is forwards not lateral and the flanks are quite flat. The vomiting is early, well-marked, and fæcal. In the third type there is no alteration in the shape of the abdomen and the vomiting is early and may be severe but it is never fæcal. Again, the first type is practically always chronic—the only exceptions being volvulus and intussusception; the second type may be acute or chronic; and the third is always acute. In the chronic forms the outlines of the coils of intestines, large or small or both, as the case may be, are visible, standing out prominently on the abdominal wall, and can always be made more so by friction with the fingers. This sign is, of course, most marked when the subject is not obese. After some consideration I think the three types may be arranged as follows: (1) those in which there is pain, great distension, fæcal vomiting little and late, and globular bulging, in which the bowels do not act, and there is no flatus; (2) those in which there is pain, medium distension, fæcal vomiting early, and median distension, in which the bowels may act, and there is little flatus; and (3) those in which there is pain, no distension, no fæcal vomiting, and no alteration in shape, in which the bowels do not act, and there is no flatus.

It will be well to mention two other forms of obstruction at this place—viz., volvulus and intussusception. In volvulus—I refer to that of the sigmoid—the onset is always acute, it presents the characters of the first type with rapid and great distension of the abdomen soon followed by great tenderness commencing in the left iliac region and spreading thence over the abdomen due to early peritonitis. Intussusception is never a form of complete obstruction and consequently the symptoms it presents do not assume the characters of any type—nay, further, the position of the obstruction varies at different times. But there are two or three points which it is well to bear in mind concerning it that may be of great assistance in preventing error. These are, first, that the tumour may not be palpable except during the paroxysms of pain; secondly, that it can never be felt in the hypochondriac regions; thirdly, that there is usually well-marked tenesmus; and, fourthly, that there is the occurrence of bloody mucus in the motions. I need not dwell on these matters.

Lastly, there is a set of cases which require to be specially mentioned and which are of great importance from the point of view of treatment. I refer to cases of spurious strangulation, false strangulation, and pseudo-strangulation. In this condition the patient presents all the signs and symptoms of acute strangulation and obstruction without there being any interference with the lumen of the bowel. It is due to various causes, amongst which may be mentioned orchitis in an undescended testicle, inflamed hydrocele, phlegmon of the upper part of the abdominal wall, perforating gastric ulcer, perforating appendicitis, peritonitis, paralysis of the bowel, and strangulated ovarian cyst or fibroid. In this class of cases the symptoms are always acute and the type which any case assumes will depend on the time for which the condition lasts. At first the case will present the characters of the third type and later those of the second type, but probably only the first type when the condition is peritonitis and paralysis of the bowel. If the patient dies rapidly the case may retain the characters of the third type to the end.

DIAGNOSIS.

The question of diagnosis is very perplexing and I suppose there are few, even of the most experienced, who have not at times felt wiser after, or at least towards the close of, a case of obstruction than they did at the beginning. For this reason I think that we may, I hope not unprofitably, devote a little time to the consideration of this subject. For purposes of diagnosis cases of intestinal obstruction may be divided into the following: 1. Cases of acute obstruction. 2. Cases of chronic obstruction. 3. Cases of chronic obstruction in which symptoms of acute obstruction supervene.

1. *Acute obstruction.*—This may be due to a lesion of either the small or the large intestine. In the small intestine it may be due to strangulation by bands or through apertures, by kinking, by foreign bodies, and by one variety of intussusception. In the large bowel it may be due to volvulus or intussusception. In the first place it is important that we should make a thorough examination of the case. All the usual regions where herniæ occur should be carefully explored, the abdomen should be carefully palpated, percussed, and inspected, and the rectum should be examined. The nature of the pain should be carefully investigated as to constancy or not and the condition of the patient between the paroxysms of pain. The vomit and other evacuations should be inspected if possible.

Let us assume a case where the obstruction is complete. The following points will be of value in assisting to a conclusion. The pain will be constant with paroxysms during which the vomiting will most probably be marked. The vomit may be fæcal or not fæcal—that does not matter. There is complete constipation and no flatus is passed. The patient is in a condition of prostration, with a pinched face, cold sweat, pale or livid skin, a rapid, small, and feeble pulse, and a tongue becoming dry and brown. He passes little urine which is high-coloured; he is anxious about his condition, and mentally he is in a state of horrible anxiety. On looking at the abdomen we may get valuable information. If the abdomen be distended, bulging both forwards and laterally, and if there is tenderness in the left iliac region or if there is tenderness over the greater part of the abdomen but worse in the left iliac region and tympanitic on percussion, then the case is most probably one of volvulus of the sigmoid. If the abdomen is tympanitic with little or no tenderness, with bulging forwards but not laterally, then the case is most probably one of obstruction low down in the small intestine. Again, if the abdomen is tympanitic and unaltered in shape—i.e., with no distension or at least distension of the stomach as sometimes occurs before vomiting—then the obstruction is probably high up in the small intestine. In intussusception the obstruction is never complete and the contour of the abdomen presents no guiding characteristic, but during the paroxysms of pain the hand may discover a tumour, there are tenesmus and the evacuation of bloody mucous discharge. The case, too, is seldom very acute.

2. *Chronic obstruction.*—This may be due to stricture of the small or the large intestine, to fæcal accumulation, or to chronic intussusception. The patient complains of digestive troubles with attacks of colicky pain in the abdomen, the bowels do not act satisfactorily, and he probably finds that the indigestion, the pain, and the constipation occur together. He is also much troubled with flatulence. The tongue is probably furred, the breath is offensive, and little flatus is passed. On examining the abdomen if we find a tumour in the line of the large bowel which pits on pressure and probably is somewhat tender it is fæcal accumulation. If the tumour hardens or becomes more distinct under pressure then it is intussusception. If the abdomen is distended, bulging in the flanks as well as forwards—i.e., globular in shape—with or without coils of intestine showing on the surface, tympanitic, and with no tumour to be made out, then the case is one of stricture of the large intestine low down. If the left flank is flat and the right bulging the stricture is above the descending colon. If both flanks are flat and the bulging is chiefly forwards then the stricture is low down in the small intestine. If the abdomen is unaltered in shape or bulging only in the upper part then the obstruction is high up in the small intestine.

3. *Chronic obstruction in which acute symptoms supervene.*—It will be unnecessary to enter into this class of cases after what has been already said. The cases present the symptoms of acute obstruction like those mentioned, but inasmuch as there may not be strangulation the constitutional depression may be much less marked.

TREATMENT.

The treatment may be divided into the medical and the surgical. The medical treatment comprises the administration of drugs, the arrangement of the diet, and attention to the creature comforts generally and the use of enemata. The use of enemata is of great value both as a means of treatment and as an aid to diagnosis and should be employed as early as possible. As regards drugs, the number which are of any use in these cases is very small and their value is very limited. No drug has yet been discovered which is capable of undoing a twist of the gut, loosing a knot, or reducing a hernia, but there is one drug or group of drugs the use of which may be, and is likely to be, fraught with disaster. I refer to aperients. Unfortunately they are usually administered by the friends of the patient before the case is seen by a medical man. There is ample evidence to prove that this class of remedies has converted chronic cases into acute and has turned the balance against those of a less urgent character. It would appear that the use of aperients is, if anything, worse than the unguarded use of opium. This drug is of special value; indeed, its great value is one of the chief drawbacks to its use. On this account it should not be administered until the diagnosis has been made. This having been accomplished, and it being borne in mind that it is but a palliative measure, it will be found that the vomiting, the pain, the subnormal temperature, the pulse, the scanty urine, and the collapse, are all improved by it. But in many cases it is a broken reed to lean upon, for the very benefits it confers lull both the patient and his medical attendant into a sense of security which is very likely to prove entirely delusive and the sad awakening comes all too late. I believe that the administration of opium is calculated to improve a patient's chance of bearing the shock of operation. Finally, the medical treatment of a case of obstruction may be briefly summarised by saying that it usually consists of waiting till it is too late.

In the present state of our knowledge I fear that any hope of recovery which cases of obstruction may have must depend upon surgery, not upon medicine. And here we come face-to-face with the question of operation, which is always a serious one both for the medical adviser and the patient. The operative treatment of intestinal obstruction has been

attended by a very high mortality, while the operative treatment of strangulated external hernia has been followed by the most gratifying results. Why? Because the condition is readily seen and recognised and the operative treatment is undertaken in time. No one nowadays would think of waiting to try the effect of internal remedies in a case of external hernia. It is recognised that the safety of the patient lies in early operation. If it were so in the case of internal strangulation it would be to the credit of surgery and to the advantage of the patients. The reason that the operative treatment of internal strangulation is so serious is that in the majority of cases the operation is deferred until the tissues have become irreparably damaged and the vital powers exhausted. This is due in part to the difficulties in diagnosis, in part to the rapidity with which the involved tissues become disorganised, and in part to the reluctance we all have to operate. When I tell you that the average duration of life after the occurrence of strangulation is only five days and that the bowel becomes gangrenous on the third day it will readily be seen that the period during which the gut is recoverable is very short. Indeed, it may be said to be less than 48 hours. What is important for us to remember is that a patient may have obstruction and not present the classical symptoms and that we may temporise until the gut is beyond recovery and the vital powers hopelessly depressed. In the old days the rule used to be, "When in doubt wait." Now the times are changed and we say, "When in doubt operate." With the improved methods of surgeons the risk of operation is much less than that of waiting. When it has been decided to operate the exhibition of opium is of the greatest value. It improves the pulse, lessens the risk of anæsthesia by stopping the vomiting, and diminishes the shock. Whatever operation it is decided to perform it is absolutely necessary that the obstruction should be relieved at the time. "No case of obstruction," said the late Greig-Smith, "should leave the operation-table with the bowels distended."

The first step in operating upon a case of internal obstruction or strangulation or both is to perform laparotomy, preferably in the middle line. There are few conditions which cannot be dealt with through a median incision and it is by far the best for exploration. The abdomen having been opened the hand should be introduced and the cæcum examined. If that organ is found to be distended then we know that the obstruction is in the large intestine, and we must then examine the large gut systematically until the position of the obstruction and its nature have been ascertained. If, on the other hand, the cæcum is found to be collapsed we know that the block is in the small intestine, and probably the easiest method of finding the lesion is to follow up the collapsed small intestine to that point. In some cases the distension is so great that the obstruction cannot be found, the intestines protrude through the opening, and it is impossible to get the hand into the abdomen. In such cases it is better to take the most prominent loop of bowel and open it by the method to be detailed later, or else to puncture the intestine at a more distant point through the abdominal wall. The site of the obstruction and its nature having been ascertained the next point is to decide upon the best line of treatment to employ. The treatment now will vary with the form of obstruction. Herniæ will be reduced, bands, cords, loops, and nooses will be divided, a diverticular band will be removed with the special precautions applicable to that body, twists will be untwisted if possible, and adhesions will be broken down. All this is very simple and I need not detain you with any further details of this kind. But we must devote a little time to the consideration of the bowel. If the bowel be gangrenous, kinked, too matted by adhesions to be freed, strictured, or the seat of malignant or other growth, then it will be necessary to excise the affected part. There is some difference of opinion as to the manner in which this should be accomplished. Two methods are open to us—(1) to excise the segment of bowel which is affected and at once proceed to join the ends of the divided gut, and (2) to perform enterotomy or colotomy, removing the affected part if necessary at the same time and later to suture the ends of the gut at another operation when the patient has recovered from the effects of the obstruction and regained strength. In favour of the first method it is maintained that all is done at one operation and the risk of the second is saved. But against it there is, it must be admitted, the weighty argument that the patient is not in a condition to bear the strain of any lengthy procedure. The bowel above the obstruction is distended; it is not easy to handle and it is unlikely to heal quickly, for it is kept in a state of constant unrest and it does not give rapid relief to the distension—in fact, it may give no relief at all. It is not easy accurately to tell how much bowel should be removed and stricture is more likely to follow intestinal anastomosis when the gut is distended than when not so. In favour of the second method it may be said that it is quickly performed, that the condition for which the operation was primarily undertaken is at once relieved, and that the patient has time to regain strength before the more lengthy procedure is undertaken, for which due preparation can be made, while the objections against the first method are all overcome by this. The only drawback to the second method is that it necessitates two operations, but experience seems to show that it is the best.

Colotomy is an operation which has been said to be something in the nature of an admission of failure and in the pre-antiseptic days perhaps it was so. The operation is so old that it would seem unnecessary to say anything about it on the present occasion and yet I think that something may still be learned by looking at the old operation from another standpoint. The method which I have adopted for nearly three years now is as follows—and I would venture earnestly to recommend it to your thoughtful consideration as being easily accomplished, as giving complete and speedy relief to the obstruction and safety to the patient, and as being quite as applicable to the small intestine as to the large.

The abdomen is opened by a suitable incision and the bowel above the obstruction and as near to it as possible is seized and brought out of the wound. A glass rod or other suitable object is then passed beneath the bowel through the mesentery and fixed in position. A purse-string suture is then run through the serous and muscular coats of the bowel on its convex surface so as to include an area of about the size of a penny-piece. A glass tube about two inches in length and three-quarters of an inch in diameter and having two shoulders at one end is placed with the shouldered end within the area of the purse-string suture and the suture is drawn tight and tied off. The tube is then pressed against the bowel and the wall of the gut is drawn up round the tube and tied above the second shoulder. If the purse-string suture has included a sufficiently large area there should be no difficulty in tying the second ligature above the second shoulder. It may be tied below the second shoulder with perfect safety, but it must be above the purse-string suture. The tube is then raised so as to put slight tension on the gut, a scalpel is then passed down the tube, and the bowel is incised with a crucial incision. The finger then presses the gut against the opening just made so as to prevent the contents escaping, while a rubber tube is placed on the free end of the glass tube. When the rubber tube is in position the finger is removed and the contents allowed to drain away into a suitable receptacle. In a few minutes the distension is relieved and the abdomen becomes flaccid. Should the abdominal wound be rather large a suture or two may be put in, otherwise nothing further is needed. In a few days the ligatures cut their way through and the tube separates. By that time the peritoneal cavity is completely and securely closed. The tube usually separates in about seven days. The glass rod may be left for 10 days or more as it is thought desirable. After the tube separates the opening in the gut will require enlarging. Usually one finds that the dressing requires no attention from the time of the operation till the tube separates beyond tightening the bandage as the abdomen subsides. The reason for the second ligature is to prevent leakage, which would be inevitable at the purse-string suture. Incising the bowel through the glass tube and guarding the end of it with the finger have the same object in view. I have used this method in a considerable number of cases and the results have been so satisfactory that I shall continue to employ it in all cases of this kind in future unless it is superseded by something better.

Finally, I would briefly emphasise the following points: (1) that a patient may suffer from fatal obstruction and not present the classical symptoms; (2) that the symptoms of obstruction vary with the site of the obstruction; (3) that early and definite diagnosis is essential; (4) that the use of aperients is likely to do harm; (5) that the exhibition of opium is likely to mask the symptoms and to produce signs of improvement which are entirely delusive; (6) that the time during which operative treatment is likely to be successful is very short; (7) that the bowel must be evacuated at the

time of the operation, otherwise the patient may die poisoned by his own excrement; and (8) that it is probably safer to be content with colotomy or enterotomy where the bowel is seriously damaged than to attempt an operation for nastomosis.

Swansea.

CURE OF ASCITES DUE TO LIVER CIRRHOSIS BY OPERATION.

NOTES OF A SECOND SUCCESSFUL CASE AND OF A POST-MORTEM EXAMINATION.

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DR. DRUMMOND and I have already published a paper[1] on the cure of ascites due to liver cirrhosis by a surgical operation. The design of the operation, as we then pointed out, was to relieve the obstructed portal circulation by the establishment of an efficient anastomotic one. I propose to offer now further evidence, both of a clinical and post-mortem character, that this can be successfully accomplished.

A man, aged 42 years, was sent to me in January, 1897, by Mr. G. Longbotham of Middlesbrough, complaining of swelling of his bowels. It appeared that eight weeks previously he had felt unfit to attend to his business from weakness, having an uncomfortable puffed-up feeling after meals and being somewhat swollen. Since the beginning of the year the swelling had increased very rapidly. Except for a history of three attacks of pneumonia, always in the left lung, there was nothing to note in his previous health and his family history was excellent. With regard to alcohol he said that he never took more than a pint of beer to his dinner and supper, and very occasionally a glass of whisky, and that he had always been temperate. This statement was corroborated by his wife and by Mr. Longbotham. His arms, his legs, and his chest had got much thinner since his illness commenced. His organs, with the exceptions to be presently noted, appeared to be sound. His abdomen was much swollen and it felt tense. All the signs of a large collection of free fluid were present. No liver dulness could be distinguished. His spleen was so much enlarged as to fill the left ilio-costal and lumbar spaces and to bulge forward the left flank. A distinct notch was felt in the tumour, showing it to be spleen, in a line drawn from the umbilicus to the ninth left costal cartilage and midway between the two. Never having seen so large a spleen before in liver cirrhosis, before deciding to operate I asked Dr. Drummond to see the patient. He concluded that the ascites and enlarged spleen were due to liver cirrhosis and advised operation.

The operation was performed on Jan. 12th, 1897, under chloroform. The abdomen was opened midway between the umbilicus and ensiform cartilage sufficiently to admit my index finger for exploratory purposes. The characteristic hard, hobnail surface which was felt on reaching the liver left no further doubt as to the diagnosis and the parietal incision was extended from the ensiform cartilage to the umbilicus. I then introduced my hand into the abdomen and projected my finger against the anterior parietes three inches above the pubes and made an opening sufficiently large there to admit a glass drain into the recto-vesical pouch. About two gallons of fluid escaped from the upper opening and through the tube. Through the upper opening a perfect view of the liver and spleen was obtained. The liver presented the typical appearance of the ordinary form of alcoholic cirrhosis, and although diminished in size was not so much contracted as we expected it might be from the diminished liver dulness. The spleen was enlarged to at least six times its normal size. After emptying the peritoneal cavity and drying it with sponges, the anterior surface of the liver, the outer surface of the spleen, the exposed coils of intestine, and the parietal peritoneum were all firmly sponged and the omentum was attached by sutures widely to the parietal peritoneum lining the anterior abdominal wall, as described in the paper to which I have referred above. The whole of the upper wound was closed by deep and superficial sutures and the glass drainage-tube was left projecting and firmly gripped below. Wide, long strips of strapping were applied firmly over the dressing from the epigastrium down to the drainage-tube. The nurse who was left in charge was directed to keep the dressing dry by frequently emptying the tube with a pump. The operation was completed at 12.45 P.M. The after-progress of the case was as follows. Fluid was drawn off at 2.15 P.M., at 2.45 P.M., at 3.15 P.M., at 3.45 P.M., at 4 P.M., at 4.30 P.M., at 5.15 P.M., at 6.10 P.M., at 7 P.M., at 7.40 P.M., at 9.15 P.M., at 10.15 P.M., and at 12 midnight. The total amount of fluid drawn off since the operation was 8 oz. 4 dr. On Jan. 13th fluid was drawn off at 2.30 A.M., at 4.30 A.M., at 6 A.M., at 7.40 A.M., at 9.15 A.M., at 10.40 A.M., at 12.35 P.M., and at 2.45 P.M. The total drawn off during the 24 hours was 6 oz. 6 dr. On the 15th fluid was drawn off at 6.15 A.M., at 9 A.M., at 1.30 P.M., at 3 P.M., at 10 P.M., and at 12 midnight, and on the 16th at 1 A.M., 3 A.M., and at 6.30 A.M. The total for the 24 hours was 4 oz. The wound was dressed for the first time on the 18th, when the glass tube was removed and a small indiarubber one was inserted. On this day and on the 19th and 20th the dressing was frequently changed to keep the wound dry. The wound was dry all the night of the 21st, and on the 26th the indiarubber tube was taken out. The patient went home on the 28th with the wound healed except where the drainage-tube had been.

The general recovery of the patient requires no note. From the surgical point of view it was straightforward. It was, however, evident during the last few days of his stay in Newcastle that he was much depressed mentally and after his return home the depression increased and for three weeks he was alternately depressed and excited. This feature seems to me to be deserving of more attention than would have been given to the same in an ordinary case, for it may possibly be one of the special risks of this operation. Dr. Drummond has brought before the Northumberland and Durham Medical Society at various times cases of liver cirrhosis complicated by peculiar nervous symptoms, and in one patient who died he was unable to find any change in the nervous system to account for the symptoms. In that case the liver was in an advanced stage of cirrhosis, there was no ascites, and there was a very large vein of Sappey connecting the portal with the systemic circulation. The explanation given by Dr. Drummond of the attacks—viz., that they were due to intestinal products finding their way directly into the systemic circulation without any liver influence being brought to bear on them—is in accordance with the fact that this patient was on several occasions rescued from an apparently hopeless coma by the administration of a brisk purgative and also with the results of experiments on the liver functions. 10 months after the operation my patient was shown at a meeting of the Northumberland and Durham Medical Society. He appeared then to be in excellent health and said that he felt perfectly well. His spleen, though considerably less, was large enough to be easily felt. There was no sign of fluid in the abdomen. I next heard definitely of him in January, 1899. A well-known insurance office wrote asking me to report on the nature of the operation performed two years previously. He had been passed by the medical adviser of the company as a first-class life, but before completing the insurance I was consulted.

The only difference between this operation and those previously recorded by me was in the position of the parietal incision. The main opening in this case was made above the umbilicus and was only large enough to admit a drainage-tube below that point. The importance of avoiding the chance of a ventral hernia will be seen later.

The patient in the first successful case, a woman, attended the Medical Section at the annual meeting of the British Medical Association at Carlisle eight months after the operation and was then apparently in perfect health. The abdominal cicatrix had yielded to some extent, producing a ventral hernia. This was the result of a cough which had troubled her for some months and imperfect suturing, but the hernia occasioned no inconvenience and was kept in place by an abdominal belt. Two years after the operation this patient called on me concerning her ventral hernia. During this time she had felt strong and well, had led an active and happy life, and had performed all the duties of her household. Latterly a troublesome cough had led to a marked increase in the size of the hernia and her belt had ceased to be a sufficient support. She was anxious to have the hernia radically cured, and considering the trouble which it was causing, the certainty that it would get worse, and the

[1] Brit. Med. Jour., Sept. 19th, 1896.

good condition she was in, I could not refuse to undertake the operation. The operation was performed on Oct. 5th, 1897, by a method of my own without opening the peritoneum. The only peculiarity observed was that the sub-peritoneal vessels were large and bled freely. She recovered in an hour from the immediate effects of the operation but towards evening became very restless and complained of pricking pains and numbness in her arms and legs. Next morning after a restless night I found her distinctly jaundiced and complaining still more of the numbness and pain in her arms and legs which were very tender when touched. The jaundice and restlessness increased and on the second day after the operation she became comatose and died at night, deeply jaundiced.

Post-mortem evidence.—At the necropsy Mr. W. G. Richardson removed the whole of the abdominal viscera and the parietes, excepting the skin, *en masse*. He then injected the whole from the trunk of the portal vein. I showed the specimen at a meeting of the Northumberland and Durham Medical Society on Nov. 11th, 1897, and in demonstrating it I said[2]: "The liver, the spleen, and the intestines are seen to be attached to the parietes chiefly by numerous band-like adhesions. (Many of these seemed to contain little except a blood-vessel and in several of them such vessel was four inches in length.) The omentum also is firmly adherent over the anterior abdominal wall by strong bands. In all of these adhesions innumerable injected vessels are readily seen passing from the omentum and viscera to the parietes. Many of them are fully the size of a normal radial artery. The sub-peritoneal plexus of vessels forms a dense large network.

This specimen establishes our belief that an efficient anastomotic circulation can be brought about by operation. There can also be no doubt that this patient was cured of ascites and that useful life was prolonged to her for two years by the operation. A further examination of the specimen shows the liver to be much atrophied and degenerated. The spleen is at least four times its normal size. It is quite evident that the obstructed portal circulation has nothing to do with the splenic enlargement—in this case at all events—for the new anastomotic circulation is clearly more than sufficient to compensate for any diminution in size of the portal vein."

Dr. Bolam reported as to the microscopic condition of the liver: "Typical cirrhosis with much fatty degeneration. Fibrous tissue well formed. ..... So-called new bile-ducts present in numbers, liver cells showing extreme fatty degeneration in all zones, and normal cells few and situate in central portion of lobule."

In another case I have performed the operation for the cure of ascites and though the case is of no value in forming an estimate of the worth of the method I think it is right to report it, as the introducer of a new operation should be expected to offer the whole of his experience concerning it.

The patient, a woman, aged 54 years, was sent to me by Dr. Welsh of Felton when she was very ill. She was an excessively stout woman and had enormous distension of the abdomen. 18 months previously she noticed her legs to be swollen for the first time. One year previously, though always very stout, she found herself getting stouter and this was most noted in the abdomen. Up to two months ago she was able to attend to her business and felt fairly well, then the swelling of her abdomen and legs which had been steadily increasing incapacitated her and for the last three weeks she had been confined to her bed. Her mother died from "consumption" and her father from pneumonia; all her father's family had had delicate chests and her only sister had died from "consumption." Eight years previously the patient had had pneumonia and bronchitis, to which she was subject, but otherwise her health had been good. A year after this she had a rupture at the navel.

When I saw her on March 5th, 1897, her legs and abdomen were enormously swollen and beyond ascertaining that there was a quantity of free fluid in her abdomen and some albumin in her urine I learned nothing from careful physical examination. On March 6th I tapped her and removed five and a half gallons of ordinary ascitic fluid. This made no appreciable difference in the size of the swelling, but I thought that I could now feel that the bulk of the enlargement was due to a round elastic tumour. On March 18th I opened her abdomen and found in addition to a quantity of ascitic fluid an enormous multilocular cyst. The abdominal incision was extended so as to include the umbilicus and the sac of a hernia and these were excised. After separating the adherent omentum the tumour was found to be of the left ovary and to be buried in the broad ligament. An extensive enucleation was necessary for its removal but very little blood was lost. The liver was seen to be cirrhotic and the spleen and the omental vessels to be enlarged, so the omentum was sutured across the anterior abdominal wall. The abdomen was closed without drainage. For the first week after the operation the patient was exceptionally well and looked as if there was no doubt as to her recovery. Then she had an attack of diarrhœa with some vomiting, she became lethargic, and she refused her food. On March 27th it was noticed that her pulse had become markedly intermittent. She steadily went downhill and died on March 29th, on the eleventh day after the operation. A post-mortem examination limited to the abdomen corroborated the opinion formed at the operation. There was some free fluid in the abdomen. Both kidneys were in an advanced cirrhotic condition, not smaller than normal, but markedly granular on the surface with adherent capsules. There were no surgical complications. I think, judging by the symptoms and the result of the limited post-mortem examination, that death was due directly to the kidney lesion.

It is more rare than I thought to see uncomplicated cases of liver cirrhosis and ascites. Valvular heart lesions, thoracic aneurysm, albuminuria, and glycosuria, are the most frequent complications which I have met with and each would seem to contra-indicate operation because but seldom can the latter two be temporary. Of my two previously recorded cases one was successful in curing the ascites, the other was not.[3] The clinical diagnosis of liver cirrhosis was not in the latter case corroborated by surgical examination of the liver, and Dr. William Ewart suggested at a meeting of the Harveian Society of London on April 6th, 1899, that my case might be similar to one under his care. In his case the operation failed to cure an obstinate ascites which was believed to be due to liver cirrhosis and his patient died like mine several months after the operation. In his case the post-mortem examination showed a universally adherent pericardium stiffened by a layer of calcareous salts which must have precluded the contraction of the ventricles. The liver was not cirrhosed.

I have now operated on four cases. Two were uncomplicated and were regarded as suitable cases for operation and both of them were cured. In one the diagnosis was doubtful, and in another the complications were such as to preclude recovery.

The conclusions which I have come to are as follows. 1. Ascites due to liver cirrhosis can be cured by the establishment of an efficient anastomotic circulation. 2. Adhesive peritonitis produces adhesions between the abdominal contents and its parietes in which new blood-vessels form. If there is any demand for the new blood-vessels they remain permanently. 3. The operation described in the paper by Drummond and myself[4] is the safest and most certain method of producing adhesions. 4. It is no longer advisable to treat the ascites due to cirrhosis by repeated tappings if the patient is otherwise sound and in fair general condition. After one or two tappings have failed operation offers the best chance of prolonged and useful life.

Newcastle-on-Tyne.

[2] Northumberland and Durham Medical Journal, January, 1898, p. 50.

[3] Brit. Med. Jour., Sept. 19th, 1896.

[4] Ibid.

BRISTOL JUBILEE CONVALESCENT HOME.—At a recent meeting of the governors of this institution it was stated that when all the expenses of the home had been paid £55,000 will remain for endowment purposes. Mr. E. P. Wills has since promised to subscribe £5000 provided another £15,000 be raised within three months. This would be sufficient to give the £65,000 required to endow the 65 beds allotted to the infirmary, hospital, and other medical charities and would leave a sum the income from which would be applied to reducing the charge made for the 15 beds allotted to other patients. Mr. J. S. Fry has promised to provide the last £2000 of the £15,000 required and Mr. Vaughan has given £1000 for the endowment of another free bed.

ON THE STRUCTURE OF BRAIN-CELLS AND THEIR DEGENERATION IN GENERAL DISEASES.[1]

BY H. CAMPBELL THOMSON, M.D., M.R.C.P. LOND.,
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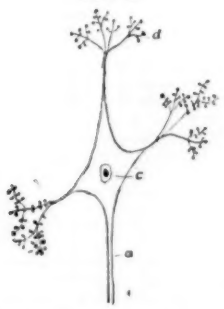
A TYPICAL brain-cell consists of a cell body together with its various prolongations. These prolongations are of two kinds—(1) short branches which ramify around the cell and carry impulses to it; and (2) one (sometimes more) long branch which carries the impulse from the cell towards its destination. The short branches are called dendrons, the long one is called the axon, and the cell body, together with its dendrons and axon, is known as a neuron (Fig. 1). The

FIG. 1.



Diagrammatic representation of a neuron. A, Axon. D, Dendrons. C, Cell body.

method of staining nervous tissues by silver salts, which was first introduced by Golgi, has shown that each neuron is an anatomical unit—i.e., its branches are in contiguity but never in actual continuity with those of neighbouring cells. Such an important discovery naturally greatly altered the ideas which were generally held concerning the modes of action of the nervous system, for it was formerly thought that the branches all joined with each other to form a complete network along which impulses freely passed, choosing their paths according to the different resistances which they encountered. The independence of the neurons explains clearly how secondary degenerations are limited. For example, the motor system is made up of two sets of neurons, an upper and a lower; the upper neuron has its cell body in the cerebral cortex and thence the axon travels downwards until it ultimately terminates by fine branches in the anterior cornua of the spinal cord. The lower neuron has its cell body and dendrons situated in the anterior cornua of the cord, while its axon makes its way outwards to convey the motor impulses to the muscles. Now according to the old idea the terminal fibres of the upper neuron were directly continuous with the dendrons of the lower neuron and therefore it was difficult to explain why, as a rule, degenerations of the upper did not spread into those of the lower since they were continuous; on the other hand, if we are right in believing as we now do that they are not continuous the degeneration of the one would naturally not spread to the other but would become arrested when its own limits were reached.

The axon is the chief prolongation of the cell body; it usually arises by a conical stem, becomes medullated, generally runs a long course and does not branch until it has nearly reached its termination. Some fine fibres, however, called collaterals sometimes spring at right angles from it during its course, but these can only be traced for a short distance and their termination is at present uncertain.

The dendrons are fine protoplasmic processes which rapidly branch after leaving the cell body, and their branches are covered by minute processes which terminate in little varicosities. These were first described by Ramon y Cajal and were for some time thought to be artificial products brought about by the method of staining, but their regular and unvarying distribution together with the fact that they have been observed with other stains besides the silver one makes it probable that they are in reality a part of the cell. A good deal of importance has been attached to these little processes and their bead-like extremities are thought by many to be the means by which the nerve impulses are received from the corresponding processes of neighbouring cells. Stefanowska[2] found that these processes are not present in the mouse at the time of birth, but are gradually developed from 10 to 15 days afterwards. The function of the dendrons is doubtless one of conduction and in some cases it has been stated that fibrils have been actually traced from the dendron through the cell body to become continuous with those of the axon; if this proves to be generally true it will go far to show that a nerve impulse has its origin in the extremities of the dendrons and not in the cell body itself.

The cell body varies very much in shape and its structure can be studied by staining it with methylene blue after the method of Nissl. When treated in this way the cell body is found to consist of two substances—one which stains and another which does not. The chromatic or staining substance is usually arranged more or less regularly in rods or cubes, but the appearance may vary a little according to the methods by which the specimens are prepared. The achromatic substance forms the framework and is probably concerned with the conduction of impulses across the cell body. Opinions are a good deal divided as to the importance of the chromatic substance, or chromatophile granules as they are often termed. Van Gehuchten considers it is one of the principal constituents of the cell, forming a reserve substance which accumulates during rest and diminishes during functional activity, and Lugaro also supports this view. There is usually a very distinct nucleolus in the cell body which stains deeply and this is surrounded by a lighter zone which represents the nucleus. Many of the cells contain a quantity of pigment, but the significance of this is not determined, for while some think it a sign of degeneration others ascribe it to activity. Whatever the uses of the separate constituents of the cell body may be its chief function as a whole is one of nutrition, for whenever any of its processes are cut off from it they always die.

Pathological changes have been observed in the cell body and its processes both in mental and general diseases and I can confirm some of the changes which take place in the latter from my own observations. The principal changes which have been observed in the cell body are alterations in the quantity and distribution of the chromatophile substance and the two conditions which seem to favour this are toxæmia and a high temperature. In man it is usual to find these two conditions existing together, but in animals the one may be experimentally obtained without the other, and according to Marinesco the effects produced are distinctly different in the two cases. Marinesco[3] has studied the changes which take place in the cells of the central nervous system after an animal has been exposed to high temperatures and he has described three stages of degeneration which he thinks may be recognised. The earliest lesion consists of a circular and segmentary distribution of the chromatophile elements; next the cell body becomes swollen, stains diffusely, and the granulations cannot be separately defined, while the third stage is characterised by a still greater accentuation of these appearances—i.e., great opacity of the cell body which is often most dense round the neighbourhood of the nucleus but at other times occurs over other parts of the cell. More rarely there were dark bands running across the cell which were often zigzag in shape. These three degrees naturally pass imperceptibly into one another without any definite line of demarcation. Marinesco concludes from his experimental work that a temperature lower than 40° C., even when prolonged several days, does not seem to produce lesions like those determined by experimental hyperpyrexia and that in infectious febrile states when the temperature has exceeded 40° lesions can be recognised which do not always correspond to hyperpyrexial ones and these are doubtless produced by

[1] An abstract of a paper read before the Middlesex Hospital Medical Society.

[2] Annales de la Société Royale des Sciences Médicales et Naturelles de Bruxelles, tome vi., 1897.

[3] Revue Neurologique, 1899, p. 5.

toxæmia. It is especially when the temperature reaches 41° and is maintained at that level for some hours that lesions analogous to the experimental ones are seen and these resemble those of the second experimental group.

The accompanying figures represent the principal changes which I have observed in some of the cases which I have lately had an opportunity of examining, and for the clinical references in these I am indebted to Dr. W. Pasteur and Mr.

FIG. 2.

A representation of normal brain cells showing even staining with differentiation and regular distribution of chromatophile granules.

J. Murray. Fig. 2 represents the appearance of two normal cells which stain evenly and show a regular distribution of chromatophile rods.

Fig. 3 shows the appearance of cells taken from cases of

FIG. 3.

A B C

Appearance of cells from two cases of meningitis recently under the care of Dr. W. Pasteur. A and B are from a case of postero-basic meningitis with some hydrocephalus and moderate pyrexia in a child aged 14 months. C is from a case of chronic meningitis with marked hydrocephalus and subnormal temperature in a child aged one year. The cells stained in patches of different intensity. There was no differentiation of the chromatophile rods. The nucleus was absent or ill-defined. The nucleolus was sometimes displaced as in C.

meningitis with hydrocephalus. A and B were from a child suffering from postero-basic meningitis with some hydrocephalus and moderate pyrexia. C was taken from a child,

FIG. 4.

Appearance of cells from a case of septicæmia with high temperature (106° F.) in a child, aged five years, recently under the care of Dr. W. Pasteur. The cells stained deeply and diffusely, presenting a plain dark-blue appearance with no differentiation. The nucleus was ill-defined. The nucleolus was variable but as a rule was not altered.

aged one year, who died from chronic meningitis accompanied by marked hydrocephalus. The membranes of the brain were much thickened and firmly adherent to the brain substance. The changes in the cells of this case were not so advanced as in the other and in this respect it was interesting to note that whereas in the other case there was moderate pyrexia, in this one the temperature was subnormal, or at the highest normal, throughout the disease. The stain in these is distributed in patches of varying intensity, the chromatophile granules have lost their differentiation, the nucleus is not indicated, and in some cells (as in C) the nucleolus is displaced. The cell A shows a dark band running across it which would seem to correspond with that mentioned above as described by Marinesco as a rare occurrence in his experimental hyperpyrexial cases.

Fig. 4 represents the cerebral cells of a child who died from acute septicæmia; there was a continuous high temperature for some days before death which occasionally reached 106° F. Many of the cells were swollen and misshapen and they stained deeply and diffusely, presenting a plain dark-blue appearance with no differentiation. In some the axis cylinders were also swollen and deeply stained and the nuclei and in some cases the nucleoli were often invisible.

Fig. 5 shows cells from a fatal case of tetanus. The chief

FIG. 5.

A B C

Cells from a case of tetanus recently under the care of Mr. John Murray. A and B from the motor area of the brain. C, from the anterior cornua of the spinal cord. The cells showed very extensive loss of staining substance and presented a spongy appearance on a white background, the meshes of the spongework being stained a brownish colour by the methyl blue.

change is an extensive loss of colouring matter and the cells presented a spongy appearance with a white background which had a very striking effect but one which it is not very easy to reproduce. This condition was present in the motor-area of the brain and the anterior cornua of the cord and to a less degree in the cerebellum.

In these observations I have made special use of the valuable method of examining cells without the intervention of hardening reagents as described by J. Turner[4] by which beautiful specimens can be obtained and many possibilities of artificial alterations are avoided. But besides alterations which may be possibly produced in the preparation of specimens another fallacy—viz., that of post-mortem changes—has also to be carefully avoided and in order as far as possible to avoid these I made various control experiments by keeping pieces of brain under various conditions for different lengths of time, and in no cases was I able by the fresh method to produce any of the characteristic and definite changes which I have described above. The cell body, however, is not the only part which is affected by disease and indeed in many cases it is probable that the earliest changes take place in the delicate protoplasmic terminations of the dendrons. An interesting investigation has recently been made by Hamilton K. Wright in this connexion on the action of potassium bromide, and this observer concluded that the power which this drug has of inhibiting the intellectual and motor processes depends upon its action on the ultimate terminals of the protoplasmic extensions, while the cell bodies only suffer after a more prolonged exposure to its influence. It is to be hoped that further investigations in these directions may eventually lead to a more definite knowledge of the pathological conditions underlying many obscure diseases and so finally to their more effectual treatment.

Queen Anne-street, W.

[4] Journal of Mental Science, July, 1898; and Brain, Winter Number, 1897.

ECLAMPSIA; INDUCTION OF PREMATURE LABOUR; RECOVERY.

BY W. CRESWELL HOWLE, L.S.A. LOND.

I THINK that the following case is worth recording because of the recent correspondence on this subject and the almost immediate relief after the birth of the child.

On March 4th, 1899, I was called to a woman whom I found to be suffering from a well-marked eclamptic seizure. I learned from the friends that she was eight months pregnant with her first child and that her age was 25 years. There was no family history of convulsions and the patient had never had a "fit" before. On the previous day she had suffered from epigastric and lumbar pain; there had been no eye symptoms, headache, or vomiting. At 9 P.M. she was suddenly seized with a convulsion which was followed by unconsciousness. Between 9 P.M. and 4 A.M. on March 5th she had four "fits" and was insensible the whole time.

On examination I found the temperature to be 103° F. The tongue was nearly bitten through and there were profuse frothy discharge from the mouth, great cyanosis, sweating, œdema of the legs, and a good deal of pulmonary œdema. I immediately administered chloroform and continued for half an hour during which time she had three convulsions and an involuntary discharge of urine and fæces. The pulse was 120, small, very feeble, irregular, and compressible. 10 minims of tincture of veratrum viride were given hypodermically and the pulse-rate dropped to 110 per minute. After consultation with Mr. Pooler, deeming delay dangerous, we decided to empty the uterus as quickly as possible under chloroform. The os was tightly closed. The position was right occipito-anterior. The pelvic diameters, though no pelvimeter was used, were considered to be normal. We decided upon manual dilatation. In 65 minutes we had dilated sufficiently to introduce the hand. Version was performed and delivery was rapidly effected, this method being quicker than extraction by forceps, time being all-important. The child, a male with one testicle descended, was stillborn and weighed five and a half pounds. There was very little liquor amnii. $\frac{1}{100}$ gr. of citrate of ergotinin was now given hypodermically and the placenta was expressed by Crédé's method. The uterus was washed out with one in 60 carbolic solution and contraction was well maintained. There was very slight post-partum hæmorrhage, the blood being dark-coloured and slow to coagulate. The condition of the patient was now somewhat improved. The temperature was 103° and the pulse was 100, regular, not so compressible, but still small and weak. The cyanosis was not so marked and there was no recurrence of the convulsions but the insensibility was profound. A quarter of a minim of croton oil in sugar of milk was administered on the tongue. By 8 A.M., or two hours after the birth of the child, the cyanosis had entirely disappeared. The pulse was 96, of better quality, and we considered it safe to leave the patient. At 3 P.M. there had been no more convulsions. The pulse was 96 and the temperature was 99°. The patient was still unconscious. There was no post-partum hæmorrhage. At 8 P.M. there was a slight return of consciousness. A voluntary discharge of urine took place, being eight ounces in quantity and dirty white in colour; its specific gravity was 1030 and it contained 3 per cent. of urea, 12 parts per 1000 of dried albumin measured by Esbach's albuminometer, no sugar, but blood-cells, epithelium, epithelial and hyaline casts, and urates. A mixture containing 10 minims of tincture of veratrum viride and five grains of hydrate of chloral was given hourly. During the following 24 hours the patient gradually recovered consciousness but had no memory of events later than eight days before the onset of the convulsions. She had no convulsions. She passed 20 ounces of urine of specific gravity 1030 and containing urea (2 per cent.), urates, and dried albumin (two parts per 1000); no casts or cells were seen. A saline aperient was given and continued every four hours. A strictly milk diet was ordered. The progress since has been steady; there have been no more convulsions, the albumin has gradually disappeared, the quantity of urine has gradually increased, and the memory has returned. The patient left her bed on the fourteenth day and the convalescence has been uninterrupted.

This is a comparatively frequent complication of pregnancy. Statistics vary from Auvard's[1] three in 1000 to those of the Philadelphia Board of Health, one in 170, but the affection is of such a serious nature that every case seems worthy of record. The percentage of deaths is estimated at between 50 (Pajot) and 30 (Kaltenbach). All observers agree that the primipara is much more liable to this condition,[2] and plural births especially predispose to it, the above case being an exception. The extreme rigidity of the os in this case under profound anæsthesia was remarkable, remembering that the tendency of eclampsia is to expel the uterine contents. With a group of symptoms including high temperature, great cyanosis, profuse discharge from the mouth, profound stupor, and pulmonary œdema authorities[3] tell us to expect a fatal termination, and the rapid improvement after emptying the uterus was most gratifying, though Dührssen[4] says that in 93·75 per cent. the convulsions cease after this has been done.

The tincture of veratrum viride introduced by Dr. Baker of Eufaula, Alabama,[5] and revived by Dr. Squibb[6] is of undoubted use because of its effect on the circulation and it is well to remember that it takes half an hour to act. Numerous observations on the use of this drug have been recorded[7] lately and it has become a very valuable addition to our pharmacopœia.

Birmingham.

[1] Traité Pratique d'Accouchements.

[2] Statistics of the Philadelphian Hospital, 1874–89.

[3] Ueber Eklampsie (Sammlung Klinischer Vorträge), No. 39.

[4] Archiv für Gynäkologie.

[5] Southern Medical and Surgical Journal, 1859.

[6] Medical Record, Dec. 6th, 1896.

[7] THE LANCET, Jan. 15th, 1898.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

A CASE OF COMPLETE OCCLUSION OF THE OS UTERI.

BY T. W. PARKINSON, M.B., C.M. EDIN., D.P.H. ABERD.

ON May 2nd, 1899, I attended a woman, aged 43 years, a primipara, who had been in labour about six hours when I arrived. The pains were almost constant, not permitting of any uterine relaxation the whole time during which I remained with her. She complained very much of a tearing pain in the region of the bladder. Upon examination I found the vulva to be a good deal swollen, the vagina hard and dry, and the perineum very thick and rigid. I found the head presenting but entirely covered by the distended cervix. I could find no os uteri, but this did not surprise me as I concluded that it was too high to reach. I was very much struck, however, by the dryness of all the parts and by the head being so low without dilatation of the os uteri. In three hours I returned and found the bulging head lower but no os uteri. The pain in the lower part of the anterior abdominal wall was now unbearable. Under chloroform I made a thorough examination and found complete occlusion of the os uteri with just the smallest of dimples to indicate its position. I relaxed the chloroform and permitted the pains to begin again and as soon as the cervix became tense over the presenting part I forced my finger with a sharp nail through the cervix and afterwards through the membranes. The water escaped and the pain stopped for half an hour. There was a good deal of bleeding. The rupture through the cervix took a somewhat triangular shape. As soon as the pains began again the artificial os uteri dilated rapidly and I delivered with forceps as the patient was much exhausted. She made a good recovery and is now quite well.

Brechin.

A CASE OF UNEQUAL GROWTH OF FINGERS.

BY G. A. HAWKINS-AMBLER, F.R.C.S. EDIN.,
DEMONSTRATOR OF ANATOMY AT UNIVERSITY COLLEGE, HONORARY SURGEON TO THE SAMARITAN HOSPITAL FOR WOMEN, AND ASSISTANT SURGEON TO THE STANLEY HOSPITAL, LIVERPOOL.

IN THE LANCET of Feb. 4th, 1893, I published a note on this case which was illustrated by an engraving (taken from a photograph) of the hands of a young girl in whom

FIG. 1.

Right hand, palm down. 10 in. coil. Exposure 20 seconds.

FIG. 2.

Left hand, palm down. 10 in. coil. Exposure 20 seconds.

the irregular development had occurred and who shared it with her father and her father's cousin whose hands were described as being exactly similar. The deformity appeared to be as I described it and as the illustration indicated, the ring finger being the only one fully developed on either hand, the remainder being unequally grown. The condition is symmetrical. My description, however, seems to have been as unconvincing as the illustration and in at least one book (Mr. Tubby's, for example) the case is described as one of overgrowth of the ring finger, the implication being that the other fingers are normal. Mr. Tubby borrowed and copied my illustration but reversed my description. I have been at some pains to trace the girl in order to see what is the exact condition by a skiagram and Miss Knight of the Park-lane Day Industrial Schools here, where the girl formerly attended, has been good enough to find her to enable me to get the accompanying excellent skiagrams which I owe to Mr. Thurstan Holland.

The condition disclosed is remarkable. It will be seen that the thumb and ring finger of each hand are apparently the only properly developed digits. The second phalanges of the first, second, and fourth fingers are abortive. It would appear that the epiphyses in the first phalanges of the first and second fingers are larger than usual, but I do not quite know how to describe the condition otherwise—the girl is now in her eighteenth year. I am disposed to accept the opinion of Mr. Douglas Crawford that when the terminal joint was formed there was no complete division of the cartilage and that the nutrient supply in consequence suffered. I think we may take it that the condition is symmetrical, though it is not so obvious in the left index finger as in that of the right hand. The hands seem normal in other respects, as is the girl except for some deflection of the nasal septum to the left.

Liverpool.

DISLOCATION OF THE CARPUS WITH THE HAND BACKWARDS.

BY JOHN ELLIOT, L.R.C.P. & S. EDIN., L.F.P.S. GLASG.,
ASSISTANT MEDICAL OFFICER TO THE BOROUGH OF PORTSMOUTH ASYLUM.

ON March 18th, 1899, an ill nourished, feeble woman, aged 64 years, suffering from melancholia with considerable mental enfeeblement, was seized by both hands by a maniacal patient, was swung violently round, and was thrown

Illustration showing backward displacement of hand and carpus.

to the ground. She fell backwards, throwing out the left hand to save herself, and the palm came in sharp contact with the floor. The nurse in charge saw that there was some deformity of the wrist and sent word of the occurrence to me. I found the patient sitting on a bed in the dormitory

supporting the injured hand on her lap and alternately flexing and extending the hand and fingers as if testing their movements. The appearance of the injury is seen in the accompanying illustration. On the back of the wrist just above the joint a prominence was formed by the displaced carpal bones which had slipped up over the posterior surfaces of the radius and ulna. On the palmar surface the ends of the bones of the forearm were prominent, the projecting styloid process of the ulna being distinctly seen. The relative positions of the two styloid processes were unaltered. The palm of the hand was shortened. Movements at the wrist were naturally diminished but the fingers moved freely.

Reduction by extension and some pressure over the carpus was very easy, but on removing the force the bones slipped back again to their abnormal position and it was after this second dislocation that the photograph was taken. After another reduction ordinary anterior and posterior splints were applied with a pad of lint over the dorsum of the wrist. The interest of the case lies in the fact that considering the age of the patient and the nature of the injury the result was dislocation and not Colles's fracture.

ortsmouth.

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

ST. BARTHOLOMEW'S HOSPITAL.

TWO CASES IN WHICH FRACTURE OF THE SKULL WAS COMPLICATED BY LACERATION OF THE MIDDLE MENINGEAL ARTERY AND IN WHICH THIS VESSEL WAS LIGATURED.

(Under the care of Mr. HOWARD MARSH.)

IN both the cases recorded below the time of onset of unconsciousness after injury to the head was typical of meningeal hæmorrhage, for in each there was a clear interval of consciousness between the infliction of the injury and the coma. Although in the second case death ultimately occurred the trephining was clearly indicated by the symptoms which were present. The difficulty met with in the first case in replacing the bone which had been removed is certainly very unusual. The prognosis in these cases of extra-dural hæmorrhage is generally very doubtful, for it is rarely possible for the surgeon to feel sure that the base is not fractured or the brain itself much damaged.

CASE 1.—A man, aged 54 years, having been knocked down by a van in the street at 6 A.M. on Feb. 7th, was taken at once to St. Bartholomew's Hospital. No details of the accident could be obtained. On his arrival he was perfectly conscious, professed his ability to walk, and was anxious to return home, but he was not allowed to do so. He had a superficial scalp-wound over the right parietal eminence and there was bleeding from the right ear. At 9 A.M. he began to be drowsy and gradually became unconscious. There also developed complete paralysis of the left arm and leg and right side of the face, so that the cheek was puffed out with each expiration. The pulse went down to 39 and the breathing approached the Cheyne-Stokes type. The right pupil was widely dilated. On reaching the hospital Mr. Marsh found the patient apparently dying. As quickly as possible a large flap was raised and the skull was exposed in the right temporal fossa. It was then seen that there was a linear fracture traversing this area obliquely from below, upwards and backwards, and so placed that it crossed the anterior inferior angle of the parietal bone. A large trephine was applied with its centre one and a half inches behind the external angular process and the same distance above the zygoma. Through the opening thus obtained a large extra-dural blood-clot was exposed. This, which was about two and a half inches thick at its centre and about four inches across, was removed with the finger and a large Volkmann's spoon. It could then be seen that the dura mater had been separated from the skull and forced inwards with the brain for at least three inches over a considerable area, so that a cavity was formed large enough to hold about eight ounces, while the middle meningeal artery had been torn from its groove in the parietal bone and carried inwards with the dura mater. The vessel was ruptured and free bleeding was still taking place from its proximal end. In consequence of the wide separation of the dura mater and the depth from the surface at which it lay the bleeding artery could not be tied until more room had been obtained by enlarging the trephine opening. It was then, however, easily seized with clip forceps and tied with fine silk. The bone removed could not be replaced in the trephine opening, for the dura mater having been so much depressed by the blood-clot there was nothing on which, whether while it was entire or when it had been cut into fragments (the method, apparently, by which necrosis is most likely to be prevented), it could have rested. The scalp-wound was closed except at its centre. No drainage tube was used. Soon after the operation the pulse rose to 130. During the night there was a considerable discharge of what seemed to be cerebro-spinal fluid from the wound, though at the time of the operation no laceration of the dura mater was observed. This continued for three days. On the day following the operation the patient had regained consciousness but was so restless that a hypodermic injection of morphia (one-fifth of a grain) was given. This acted very favourably and was afterwards once or twice repeated. Movement was regained in the left leg on the fifth day after the accident; in the arm movement began to return only on the thirteenth day. The patient completely recovered and was discharged from the hospital at the end of a month.

CASE 2.—A man, aged 28 years, was struck on the head by a large block of wood which fell from a crane beneath which he was standing. On his admission into St. Bartholomew's Hospital no fracture of the vault of the skull could be detected, but there was free bleeding from the nose and into the pharynx. The patient was dazed and very restless. Soon afterwards swelling from extravasation of blood appeared on the left side of the head in the temporal region and he became unconscious. It was decided that, although in all probability there was fracture of the base of the skull extending upwards into the temporal region, an exploratory operation ought to be undertaken. When the skull in the temporal region had been exposed a comminuted fracture was discovered involving the parietal, and the squamous portion of the temporal, bone. When a crown of bone had been removed with a large trephine an extensive extra-dural blood-clot was found, and when this had been cleared away the middle meningeal artery was seen lying on the surface of the dura mater and still bleeding from its proximal end. During an attempt to place a ligature round it the vessel gave way and became retracted beyond reach. Hæmorrhage, however, was easily arrested by gently plugging the space between the bone and the dura mater with sterilised gauze. During the operation it was noticed that bleeding was still going on into the pharynx. The patient gradually sank and died the same evening. Post-mortem examination disclosed an extensive fracture of the middle fossa of the skull reaching up into the temporal region and wide laceration of the brain.

Remarks by Mr. MARSH.—Cases of ligature of the middle meningeal artery are not very rare, yet these two examples which occurred within a few weeks of each other may be worthy of a brief notice as they illustrate the different conditions under which the operation may have to be performed and the wide difference in the result which may, under different circumstances, be met with. In Case 1 it seems probable that the patient had sustained a fracture of the base of the skull, for the fracture in the temporal fossa was a mere fissure which could scarcely have been produced by direct violence, and there had been bleeding from the ear. The brain, however, was uninjured at the time of the fall, though it was severely compressed by the blood-clot which subsequently formed. Such a case as this was altogether favourable for operative treatment provided that strict asepsis was maintained: and no case could more fully illustrate the impunity with which the contents of the cranium may be treated when the brain has escaped material injury. Case 2 belonged to a different class The original accident had produced injuries to the

brain which necessarily proved fatal. That such injuries had occurred was considered very probable before the operation was performed. It was thought right to undertake it, however, because it was impossible to be sure what amount of damage the brain had in reality sustained. In both cases the middle meningeal artery was at once seen on the surface of the dura mater. In Case 2 after the vessel had given way and the end had been lost sight of bleeding was arrested by the strips of gauze which were introduced. In any case in which the orifice of the vessel could not be reached bleeding no doubt could be stopped by this method. It is obviously fortunate that, as a rule, as these and other recorded cases show, the artery leaves its groove in the bone and is to be found on the dura mater where it can be secured without much difficulty.

Medical Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

The Marshall Hall Lecture.

A MEETING of this society was held on May 23rd, the President, Mr. BRYANT, being in the chair.

Professor SHERRINGTON delivered the Marshall Hall Lecture, taking for his subject "The Spinal Animal." After some introductory remarks he said that the total function of the nervous system was by physiological analysis resolved into reflex actions. If the segmental theory of the spinal cord, therefore, meant anything it meant that the reflex spinal arcs were gathered together into groups, one for each metamere, the arcs composing each single group being functionally more closely connected one with another than the arcs of one group with those of another. This was the view which Mayo and Legallois introduced and it was insisted on by Marshall Hall. It drew some of its most trenchant support from invertebrate physiology. Thus, when a scorpion was bisected the individual segments showed automatic movements, the hind part often running over the head. In the limulus if the brain were removed the respiratory movements continued and if the ganglia associated with individual segments were disconnected respiratory movements continued in each segment, though not synchronously. If all the central nervous system of a frog except the brachial enlargement were destroyed the sexual clasp continued and in monkeys if only the tip of the spinal cord were left in relation with the sacral nerves wagging movements of the tail could be elicited. In human physiology the segmental theory had hardly been more than a figure of speech owing probably to the increased attention bestowed on localisation of functions of the brain. The basis of each spinal segment was two groups of cells, afferent and efferent. The "afferent" cells lay in the posterior root ganglion while the "efferent" were in the cord. The afferent cells were of three classes—cutaneous, visceral, and muscular. The cutaneous distribution was of zonal type, lapping round one lateral half of the body in its own metamere. The distribution of skin fields connected with adjacent segments, however, overlapped greatly, as was shown by Professor Sherrington's observations on the monkey. In the limbs the sensory skin fields radiated from axial lines along the limb, which corresponded with lines seen in certain animals with skin marking such as tigers and zebras, and they were probably not any more hypothetical than the dorsal and ventral mid-lines of the body itself. The distribution of the visceral fibres was a very difficult question. The ramus communicans was probably the visceral and vascular spinal nerve. Head, studying the localisation of pain and of patches of cutaneous tenderness associated with visceral affections, had shown that they had a surface distribution not agreeing with the distribution of sensory nerves, but segmental and showing a scheme harmonious with that which Professor Sherrington showed to hold good in connexion with the cutaneous distribution of the root ganglia. The experimental investigation of the viscera for signs of afferent nerves had yielded curiously few data. The surgeon knew the insentiency of the viscera. The gall-bladder could be incised without the patient feeling it, but everyone knew the intensity of the pain of biliary colic. The faradaic current could be applied to the collapsed intestine without causing any evidence of sensation or reflex action, but Professor Sherrington had found that if the intestine, ureter, or gall-bladder were distended with fluid reflexes were produced, the reflexes not being affected by section of the vagus. Each organ was supplied from many roots. The existence of afferent muscular cells had been proved, the fibres coming from the muscle spindles which had been recently investigated by Dr. F. E. Batten. Speaking of the distribution of the motor cells of the muscles, Professor Sherrington said that in the trunk region this was semi-zonal, as seen in the intercostal muscles; in the limbs it was ray-like, the ray extending from the mid-line of the body out into the limb, the front rays being shorter than the posterior rays. Each root supplied many muscles and a single muscle in most cases received a multiple nerve supply. Professor Sherrington had found that the afferent fibres of the muscle always entered the ganglia of those posterior roots whose motor roots supplied the muscle. This had been worked out especially in connexion with the knee-jerk. The motor root cells of each segment although not grouped as definitely as the ganglionic mass of afferent cells on the posterior root were shown to be of accurate and similar local distribution. A local inflammation of the ventral horn might as accurately constitute a segmental affection as did inflammation of a spinal ganglion. Overlapping, however, which had been shown to complicate the investigation of sensory nerves also complicated that of motor supply. So also in the visceral efferent roots, the little iris muscle, for example, having an overlapping distribution involving the first, second, and third thoracic roots. So also there was much fusion between the segments of the cord themselves which had become so welded as to form a physiological integer in some respects. This functional fusion was greatest in a longitudinal direction, there being some barrier preventing slight impulses from passing across the middle line. Regarding the skin organs, in the spinal animal, as judged objectively by its movements, the field of the skin possessed certain foci of pre-eminent delicacy comparable in a way to the yellow spot region of the field of vision. These were the palm, the sole, the tip of the ear, the perineum, and the tip of the tail. The interpretation of the reflexes usually given was that the movement was a protective one—the drawing up of the foot out of harm's way—but Professor Sherrington thought that the movement was more likely a piece of a great reflex of progression which the bulbo-spinal animal possessed. In Professor Sherrington's opinion one of the most instructive aspects of the spinal animal was in regard to muscular sense. This was a sense which did not lie open to introspection. For example, flexion of the fingers was perceived but an individual had no consciousness that the muscles of the ventral side of the forearm were contracting. There was evidence that the muscular sense-organs played a most important part in spinal sub-conscious reflex actions. Thus, if an amphioxus were divided into three segments each of the segments would swim and right itself if inverted. The cricket stands after removal of its head, and a severed ray of a starfish will correct its position. The reflex movements associated with a segment usually concerned only that particular part of the body. Many of them had to do with keeping the part clean as seen in the movements of the palps of crayfish and the elevation of the tail during defæcation in higher animals. An exception in which reflex action was for the benefit of the whole individual was seen in the crab, in which if the leg were suddenly stretched by a weight the limb was detached, the detachment being due to the sudden contraction of a muscle which ruptured one of the basal joints. Lastly, Professor Sherrington referred very briefly to spinal shock. If the cord were cut across in a monkey there was profound paralysis of the skeletal muscles, greater even than that resulting from deep anæsthesia with chloroform. This did not occur in the simpler forms of animal life. The visceral muscles, however (bladder, rectum, &c.), were not more affected in the monkey than in the frog. Possibly this was due to the fact that in the higher animals the projection sense-organs (the eye, the ear, &c.) were acquiring greater and greater dominance over the skeletal musculature, although not over the visceral musculature, and that the shock and the profound paralysis were due to the sudden cutting off of connexions with these higher sense-organs.

EPIDEMIOLOGICAL SOCIETY.

Enteric Fever in the Netherlands.

A MEETING of this society was held on May 19th, Dr. FRANKLIN PARSONS, the President, being in the chair.

Dr. R. H. SALTET, Professor of Hygiene in the University of Amsterdam, read a paper on Enteric Fever in the Netherlands, freely illustrated by maps and statistical tables, graphic and numerical. Before entering on the subject, which he thought might throw some light on the causes and spread of this disease, he wished to describe the sanitary organisation of his country. The kingdom was divided into seven provinces and subordinated to the provincial councils were those of the 1123 municipalities which with populations ranging from 200 to 500,000 were alike constituted of elected members presided over by a burgomaster nominated by the Crown. These were the sanitary authorities, but the only official medical advisers were seven appointed by the Government and one by the municipality of Amsterdam, on whom devolved not only the supervision of the public health but the work of registration of births and deaths, the inspection of asylums, and the control of the medical profession. The census was decennial, but since besides the prompt registration of births and deaths every change of domicile was notified to the local authorities the population of every district was always known with a considerable degree of accuracy. The causes of deaths, classified under 34 headings which had been unchanged since 1875, were certified by the medical man in attendance, or, in the absence of such, by one appointed by the local authority to hold an inquiry, and in cases of a suspicious character after a judicial investigation. Notification of infectious diseases had been obligatory since 1872 but was not complete, for many practitioners did not believe in the communicability of typhoid fever and some connived at the concealment of cases occurring in houses of business on account of the injury consequent on the regulation requiring a notice of the fact to be affixed to the premises. Typhus fever, typhoid fever, and so-called continued fever were not strictly distinguished, some old-school practitioners applying these names to severe, mild, and doubtful cases respectively. In his opinion cases of such infectiveness as to attack the medical attendant or nurses might be fairly assumed to be typhus fever, but these were few, so that allowing for those of typhoid fever which were not notified the total deaths returned under the three descriptions represented approximately the true mortality from enteric fever. Dividing the period 1875–95 into four quinquennia and taking the death-rate per 100,000 population in each, he proceeded to inquire in the first place whether the causes of the decline in the mortality from typhoid fever were no other than the better social and sanitary conditions which had tended to lower the general death-rate of the country. This did not appear to be a sufficient explanation, for while the general death-rate had declined by 14 per cent. and that from tuberculous diseases by 16 per cent. the reduction in the typhoid fever death-rate had been no less than 63 per cent. Next, as to the aggregation of population in town, while the urban death-rate was always somewhat higher than that of the rural districts it had fallen by 20 per cent., as against 12 in the country, and as regards typhoid fever by 72 and 60 per cent. respectively. It was worth consideration that though crowding favoured the spread of infection the residents in towns enjoyed many material advantages and better medical attendance. Thirdly, could any relation be traced between the water-supplies and the prevalence of fever? The water question in Holland was beset with difficulties. The most flourishing part of the kingdom lying below the sea level, with the subsoil permeated by salt water, the population had recourse to rain-water stored in tanks, but in dry seasons they fell back on the polluted water of the canals and dykes, while elsewhere the towns found an unlimited but questionable supply in the rivers, and only on the higher lands could good drinking-water be had from wells. Gradually, however, towns and rural communes with an aggregate population equal to 28·5 per cent. of the whole had been furnished with good public supplies drawn from wells, and Rotterdam and other towns comprising 12·5 per cent. of the population were supplied with filtered river water. Amsterdam, Haarlem, and The Hague obtained their supplies from wells in the range of sand dunes skirting the sea coast. But no appreciable difference was noticed between the two classes, for the general death-rate had fallen 19 per cent. in those supplied with ground-water and 23 per cent. in those supplied with filtered river-water, the fall in the typhoid fever death-rates having been 68 and 54 per cent. respectively, but in the latter it had been considerably lower from the first. Since river water seemed more exposed to pollution than that from wells it was possible that the lower mortality among the population using it might be partly owing to the greater cleanliness attainable with the more abundant supply of water. Fourthly, there was the influence of the soil to which attention was first drawn by Pettenkofer, though its nature was still obscure. In the Netherlands the higher and drier provinces were, with the exception of Groningen, poor and thinly peopled, the rich pasture land and flourishing centres of trade being for the most part below or little above the level of the sea. While, however, enjoying many favourable social conditions these districts suffered from the disadvantages of an absence of running streams, the rivers so-called being shut up within locks, and of the instability of the peaty soil which precluded the erection of substantial buildings even with the aid of piles driven into the clay beneath, while the disposal of sewage and factory waste was beset with difficulties. The general death-rate in the low-lying rural communes, which was formerly higher than in the more elevated, had shown a greater improvement, but that from typhoid fever had declined almost equally in both. On the whole a fall of 72 per cent. in the typhoid fever mortality among the urban population and of 60 per cent. among the rural population seemed to suggest that while sanitary improvements had operated equally throughout, the progress of medical science, the benefits of which were enjoyed to a greater extent by the inhabitants of the towns, was a factor the influence of which was far more powerful than was commonly supposed.

Mr. SHIRLEY MURPHY said that the great reduction in the mortality from typhoid fever of late years had in England and Germany been naturally ascribed to the introduction of better water-supplies and sewage disposal, but after listening to Dr. Saltet's able examination of the possible factors he could not but think that a partial explanation might be found in a diminished infectivity in accordance with Dr. Whitelegge's doctrine of cyclical variations in virulence.

Professor NOTTER remarked that the stationary character of the population of the Netherlands would favour their acquisition of a degree of immunity; in India the extreme susceptibility of Europeans recently arrived was notorious, as was the rapid increase of resistance with each year of service or residence.

Dr. THEODORE THOMSON, Dr. CHRISTOPHER CHILDS, Dr. WASHBOURN, the PRESIDENT, and Dr. WILLOUGHBY also took part in the discussion.

Dr. SALTET, replying, explained that the wells were mostly from 100 to 120 feet deep in the superficial sand only, though as remote from habitations as possible, while the river waters were subjected to sand filtration under regulated pressure and velocity. Typhoid fever in the Netherlands was mostly sporadic, epidemics being rare.

EDINBURGH MEDICO-CHIRURGICAL SOCIETY.

Exhibition of Patients and Specimens.

THE eighth ordinary meeting of this society was held on May 17th and was devoted to the exhibition of patients and specimens, Sir JOHN BATTY TUKE, President, being in the chair. Before entering on the work of the meeting the PRESIDENT made reference to the death of one of their oldest members, Dr. John Moir, and it was resolved to send an expression of the sympathy of the society to the relatives.

Dr. SHAW M'LAREN showed: 1. A boy after operation for Congenital Torticollis. Instead of performing subcutaneous tenotomy the muscle was cut through by an open incision. No apparatus was applied and now the boy could turn his head well round towards the right. The right side of the face was noticeably larger than the left—a condition often noted in such cases. 2. A lad after operation for Ruptured Bladder. He was first seen 24 hours subsequently to his accident, having been run over by a cart. He was passing frequently small quantities of urine and a catheter passed easily into the bladder. The wound was found to be low down on the anterior wall at the junction of the bladder and urethra. The wound was drained through the perineum and naturally became septic. The patient was now almost well after having

been ill for some time. 3. A man, aged 70 years, after operation for Tumour of the Bladder. The only symptom which showed itself in this case was a sudden and profuse hæmaturia which came on one day. This passed off and the urine appeared to be normal. The cystoscope showed the presence of a villous tumour on the anterior wall. A vertical incision was made over the pubes and the bladder was opened, no transverse incisions being necessary. The tumour was drawn up and clipped off with scissors. It was found to be a simple papilloma. 4. A man with old-standing Pott's Fracture of the Fibula with Backward Dislocation of the whole Foot. Radiographs showed the condition well.

Dr. AFFLECK stated that at the present time he had five cases of diabetes in his wards, four being cases of diabetes mellitus and one insipidus. 1. A case of Acute Diabetes Mellitus in a boy, aged 13 years. The case was only of two months' duration, the boy having been perfectly well previously. Thirst and polyuria were the first symptoms noticed. The quantity of urine had been as high as 260 ounces per diem. It was now 110 ounces but contained 36 grains of sugar to the ounce. The patient exhibited markedly the facies diabetica—the dryness of the skin, the thinness of the face, and the languid appearance. His weight was 4st. 7½lb. 2. A man, aged 40 years, suffering from the same disease. The symptoms had been present for more than two years. He had passed as much as 240 ounces of urine daily, though now this had fallen to 120 ounces. There were over 30 grains of sugar to the ounce. He also showed evidences of peripheral toxic neuritis—e.g., pains in the limbs, sensory disturbances, together with atrophy of the optic nerve (no cataract). 3. Diabetes Insipidus in a youth, aged 16 years. He had been ill for 18 months. No cause could be assigned for the onset. Thirst and polyuria were the only symptoms. The urine passed had amounted to 600 ounces per diem; now, however, he passed about 480 ounces. The specific gravity was very low—1001. He was gaining weight.

Dr. JAMES exhibited: 1. A case of Cirrhosis of the Liver with Abdominal and Thoracic Effusions communicating. When first seen the patient was dyspnœic from ascites and effusion in the right pleural sac. He was repeatedly tapped both in the chest and abdomen, but on each occasion the amount of fluid drawn off from the chest increased—for example, on April 3rd 382 ounces were withdrawn, on April 18th 392 ounces, and on May 15th 446 ounces. The pleural sac could now only contain about 120 ounces and therefore in emptying it the abdomen was also emptied at each of these operations. Dr. James first thought that this must have been due to lymphatic absorption during the slow draining away of the fluid from the chest, but he found by experiment that the pressure in either cavity as registered by a manometer was the same. When an inspiration was taken the pressure in the thoracic fluid rose just as it did in the abdomen. In this case there must, therefore, have been some communication between the thoracic and abdominal cavities, probably at the posterior origin of the diaphragm. 2. A case of Adult Rickets in a man, aged 23 years. The disease began when the patient was 17 years of age with the usual symptoms—pains in the legs, the head enlarged in size, and the chest becoming deformed. The radioscope showed that there was hardly any osseous matter in the terminal phalanges. The patient was distinctly shorter than he had been.

Dr. ALLAN JAMIESON showed a boy, aged eight years, in the early stage of Tropho-neurotic Leprosy. The patient lived in British Guiana. The father was a mulatto but the mother was fair. There was no hereditary history of leprosy. The disease was, however, endemic in Georgetown. The boy six years ago slept with a nurse who was found to be suffering from a sore on the leg which was pronounced to be due to leprosy in the ulcerating stage. Two years ago the mother noticed the appearance of maculæ on the face and ears and was suspicious about them. She therefore sent the boy home for observation. On the face and chiefly on the skin these purplish maculæ were to be seen. On the radial aspect of the arms they were of a faint brownish-purple colour as they were also on the legs. On the back there were brownish stains with white centres. On the nates there was a morphœa-like spot. At the centres of these stains there was a certain dulling of sensation, but it was not well marked. The hands were large and there was a degree of paralysis as the patient was not so active manually as he had been. The ulnar nerve was unaffected. 2. Two women with almost identical Deformity of the Face. In both the cartilages of the nose had been destroyed and the mouth was narrowed. In one case this had been due to lupus vulgaris and in the other to undoubted specific disease. The resemblance in the cases was very close.

Dr. MACGILLIVRAY showed two cases of successful operation after Ruptured Gastric Ulcer. 1. In the first case (a female, aged 24 years) the leakage from the ulcer had been going on for about 36 hours before the patient became collapsed. On opening the abdomen gas and large quantities of sero-purulent fluid escaped with flakes of lymph; a counter opening had to be made above the pubes and the cavity was washed out with normal saline solution. 2. In the second case the stomach was found to be divided into two compartments by a constricting band. This caused such a narrowing that only the forefinger could pass through. The operation was performed so as to remove this constriction as well as to repair the rupture. On account of the sero-purulent fluid in the abdominal cavity saline fluid was used to wash it out.

Dr. WILLIAM RUSSELL exhibited: 1. Two specimens illustrating one of the Unusual Positions of the Vermiform Appendix. In the case examined post mortem the appendix was one finger-length in size and lay behind the cæcum with its long diameter along the line of the ascending colon. In the second case, examined during life, Dr. Russell diagnosed a similar condition of affairs and at the operation the tip of the appendix was found to be gangrenous and lying behind the ascending colon. 2. Specimens from two cases of Perityphlitis not originating in the appendix. One showed the presence of well-marked shallow ulcers in the cæcum due to impacted fæces. The caput cæcum was thickened and perforated while the appendix was perfectly healthy. In the second case which was operated upon the appendix was found to be normal while the caput cæcum was deeply inflamed and covered with lymph. The appendix was removed, but the patient died and at the necropsy shallow ulcers were found in the caput cæcum the result of fæcal impaction.

Dr. ROBERT FLEMING showed numerous specimens illustrating Tuberculous Disease in various organs.

Mr. FRANCIS CAIRD showed: 1. A patient after removal of a Carcinoma of the Pylorus. The man was operated on three years ago for what was supposed to be cancer of the pylorus. On opening the abdomen then a mass of the size of a fist was found and the surrounding glands were so enlarged and hard that it was deemed inadvisable to remove the tumour. Gastro-enterostomy was, however, performed. Two years later the patient returned evidently in good health but with a ventral hernia which he desired to be operated upon. This was done and at the operation it was found that the supposed cancerous mass had entirely disappeared, leaving no trace of disease. 2. A man who three years ago was operated upon for localised typical Scirrhus of the Pylorus. He was now in excellent health. 3. Specimens from a child who had exhibited symptoms of Tuberculous Peritonitis. There was a peculiar thrill evident but no protrusion of the umbilicus. On opening the abdomen numerous mesenteric cysts containing either clear serum or a fluid like milk were found. The latter were evidently cysts into which the lacteals had burst. 4. Nodules of Recurrent Scirrhus removed from the Breast nine years after the first operation. Since the first operation there had been a certain amount of recurrence and these nodules had been removed as they appeared, as they lay quite superficially to the pectoralis major. 5. A Cystic Tumour of the Testicle. 6. A Fibroid Tumour of the Uterus which had undergone Malignant Degeneration. Panhysterectomy was successfully performed.

Mr. CATHCART showed a specimen of Multiple Gastric Ulcer. This was from a patient who was thought to be suffering from appendicitis. The peritoneal cavity was found to be full of fœtid pus and fluid. An ulcer in the stomach was found and sutured and the abdomen was washed out. Hæmatemesis, however, recurred and the patient died. The post mortem examination showed that there were three ulcers present in the stomach, one of which had ruptured while another was only covered by a thin layer of peritoneum.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF STATE MEDICINE.

Formic Aldehyde.—Cancer in Ireland.

A MEETING of this section was held on April 28th, Dr. H. C. TWEEDY, the President, being in the chair.

Dr. LITTLEDALE and Dr. KIRKPATRICK made a communication on the subject of Room Disinfection, with Special Reference to the use of Formic Aldehyde.

Dr. LITTLEDALE said that the experiments were carried out in a room having a capacity of 28 cubic metres (989 cubic feet), with no opening into it but the door, and 10 grains of formalin tabloids were vapourised in an "alformant" lamp. The yellow air coccus, bacterium coli commune, staphylococcus pyogenes albus, bacillus typhosus, pus, sputum, and putrid urine were the test objects exposed. Threads were steeped in emulsions of these various objects, wrapped in filter paper and lint, or concealed in the pocket of a coat or between the leaves of a book, or exposed quite open to the vapour. All the objects freely exposed were found to be quite incapable of growing on nutrient media after a nine hours' exposure to the formalin, but concealment in a coat-pocket or between the leaves of a book seemed quite sufficient to prevent their being acted upon to any degree, as all bacteria so exposed were not at all or only slightly hindered in their growth. The sputum was openly exposed on cover glasses, on which it had been allowed to dry in the oven at 37° C., and after exposure for nine hours no growth took place in broth for two days—that is, until the surface layer digested off and the deep surface was exposed, as could be seen by the shaggy appearance of the layer on the cover glass. Everything in the dried pus which was openly exposed on gauze was killed except a leptothrix. Agar tubes of definite dimensions were inoculated over a sloped surface for a known distance and exposed just immediately after inoculation, and after the experiment were kept at 37° C. Growths appeared in these tubes but not over the whole length of the smear. No inoculation experiments were undertaken on animals.—Dr. KIRKPATRICK said that an efficient yet easily applicable mode of room disinfection was greatly needed for such chronic infectious diseases as tuberculosis and could hardly be obtained except by means of gaseous disinfectants. Professor Koch had shown that sulphurous acid gas was useless for practical purposes, while Dr. Fischer and Dr. Proskauer had proved that to apply chlorine and bromine efficiently was quite as difficult as to disinfect with germicidal solutions. The disinfection of rooms by means of formic aldehyde generated by Messrs. Zimmermann's "alformant" was very much simpler than any other of the modes of gaseous disinfection considered, while it was superior to any of them in point of efficiency.—Dr. NINIAN FALKINER, Dr. KNOTT, and Dr. TWEEDY having discussed the subject, Dr. KIRKPATRICK, in his reply, stated that six or seven hours would be sufficient to thoroughly disinfect with formalin vapour, and on opening the doors and windows after this the smell at once disappeared, which was not the case with sulphurous acid or other gaseous disinfectants.

Dr. MARTLEY read a paper on Cancer in Ireland. After ontrasting the deaths from cancer in Ireland and ngland—the former rate being roughly only 70 per cent f the latter—he illustrated by maps its very unequal ncidence in different localities, the parts most affected being the east of Ulster, Dublin, and Carlow.—Dr. T. W. GRIMSHAW, C.B., Registrar-General, remarked that maps showed that cancer was prevalent in most Anglicised parts of the country; for example, they might look at Carlow, which they knew to be an old English colony, and Dublin, containing a large proportion of the population of English descent.—Dr. JOHN W. MOORE explained the preponderance of cases in Dublin and Belfast by the fact that in country districts the medical men were often reluctant to give cancer as a cause of death owing to the existing dread of the disease on account of its hereditary nature; also the diagnosis of cancer was usually verified in the city hospitals by a necropsy, which was not the case in the country; in addition, Dublin and Belfast received cancer patients from all parts of the country.

ÆSCULAPIAN SOCIETY OF LONDON.—A meeting of this society was held on May 19th, the President, Mr. D. H. Goodsall, being in the chair.—Mr. W. Campbell M'Donnell showed a man, aged 64 years, with some Atrophy of all the Muscles of the Left Thigh resulting from Sciatica of five years' standing. This wasting was held to be a reflex result of the peripheral irritation.—Mr. Reginald Brown read notes of the following cases: 1. A primipara, aged 22 years, with Rachitic Pelvis having a true conjugate of 8·3 centimetres. Under an anæsthetic forceps vigorously used did not advance the head. Perforation was accordingly resorted to and delivery effected easily. 2. A multipara, aged 34 years, with a Flat Pelvis having a true conjugate of nine centimetres, whose child was delivered by version.—Dr. Durno read notes of a case of Excision of the Breast of a Woman, aged 45 years, for Scirrhus. There was profuse recurrent hæmorrhage which was stopped by the local application of turpentine and re-dressing to be soon followed by a fresh outburst in alarming quantity for which the local application of tincture of perchloride of iron and a saline enema sufficed with the wound left open. Epistaxis occurred next day, so the nares were plugged and a saline enema was again used. Uterine hæmorrhage varied the site next day and was controlled by a crystal of iron alum. The patient ultimately recovered.—Dr. J. R. Conner read notes of a case of Post-Influenzal Phlebitis in a man, aged 31 years, whose left calf swelled on the twenty-second day after influenza. A few days later the thigh swelled and the superficial femoral vein could be felt to be hard. Pressure made on this thrombosed vein produced swelling of the leg, superficial veins suggesting canalisation of the clot. In 17 days from the onset of the phlebitis the swelling of the leg had almost disappeared.—Mr. E. C. Hearne showed a boy, aged 16 years, with the right leg reaching just below the left knee and having a ball-and-socket hip-joint, a normal ankle, two bones running throughout, but no knee-joint. The right hand had a thumb and three fingers; of these the third and fourth were webbed. The left hand had no thumb, no carpus, and three fingers, two of which were webbed. The left ulna and radius were much dwarfed and curved.

BRISTOL MEDICO-CHIRURGICAL SOCIETY.—The eighth meeting of the session was held in the medical library of University College, Bristol, on May 10th, Dr. A. J. Harrison being in the chair.—Mr. J. L. Firth showed a patient with Cervical Ribs.—Mr. Paul Bush showed a patient with Displaced Scapula.—Dr. W. H. Newnham showed a specimen of Intra-peritoneal Hysterectomy.—Dr. T. Fisher showed the following specimens: (1) Pancreas containing Calculi; (2) Malignant Growth of the Cæcum; (3) Sarcoma of the Ileum; (4) Fibrous Myocarditis; and (5) Lungs with Broncho-pneumonia breaking down into Cavities.—Dr. B. Rogers showed some microscopic slides with Liver Disease.—Dr. E. Stack showed a most interesting series of Kidney Specimens.—Dr. W. H. Newnham communicated a paper on Removal of One Ovary, with an account of cases.

Reviews and Notices of Books.

A Text-book of Organic Chemistry. By Professor VICTOR VON RICHTER. Edited by Professor R. ANSCHÜTZ of the University of Bonn. Translated by EDGAR F. SMITH, Professor of Chemistry in the University of Pennsylvania. Third American (from the Eighth German) Edition. Vol. I.: Chemistry of the Aliphatic Series. London: Kegan Paul, Trench, Trübner, and Co., Ltd. 1899. Pp. 625. Price 15*s.*

WE doubt whether there is a chemist living whose opinions on organic chemistry are more respected than those of Professor von Richter. That being so, it is not surprising that his well-known text-book on the chemistry of the carbon compounds has reached in the language in which it was originally written eight editions and still less surprising is it that this work should have been translated into English. The volume before us is the third American edition and its title-page bears the names of three well-known chemical authorities, Professor von Richter himself, Professor R. Anschütz the editor, and Professor Smith the translator. The volume deals with the chemistry of the aliphatic series, the fatty substances, or what may be called the acyclic carbon derivatives which contain open carbon chains, as distinguished from the aromatic or benzine compounds, the cyclic compounds of carbon, which contain closed carbon chains. Volume II. of the work which is in course of preparation will be devoted to the aromatic series and it is hoped that the work will be published during the

present year. The classification adopted is on the whole the most convenient. After devoting several chapters to the broad question of the structure of carbon compounds, their physical characters, composition, and analysis, the hydrocarbons and their halogen derivatives are discussed. In proper sequence the oxygen derivatives of the methane hydrocarbons follow. This section includes the monohydric alcohols of which methyl alcohol is the starting point and their oxidation products. Then come the dihydric alcohols or glycols, next the trihydric alcohols of which glycerine is the type, the tetrahydric alcohols, the pentahydric alcohols, and lastly the hexahydric alcohols, which include, of course, that important group of bodies the sugars and other carbohydrates. The last section is devoted to animal substances of unknown constitution, the albumins, &c. We find here no reference to the alleged synthesis of albumin which was announced last year by Dr. Lilenfeld at the International Congress of Applied Chemistry at Vienna. On p. 234 we note that it is stated that to get rid of the phosgene in chloroform about 1 per cent. of alcohol should be added. This is not correct; the addition of alcohol helps to prevent the formation of phosgene but does not destroy it. Baryta and lime will, however, effectually remove this impurity so that pure chloroform may be obtained by distilling it in contact with these substances. The outline given of the Kjeldahl method of determining nitrogen is very meagre and not sufficient to afford any practical guide. Indeed, the addition of potassium permanganate is enjoined, but this is now known to lead to error by reason of the loss of nitrogen through the energetic action of the oxidant.

The fact that Professor von Richter is one of the first exponents of organic chemistry stamps the book with authority, and it is certain therefore to be a favourite manual which will be resorted to as a reliable source of reference and for study. It teems with facts and contains an explicit account of the theory of the science and the architecture of the complex organic molecules.

Modern Drainage Inspection and Sanitary Surveys. By GERARD J. G. JENSEN, C.E. London: The Sanitary Publishing Company, Limited. 1899. Price 2*s.* 6*d.* net.

THIS book is thoroughly in accord with its title, being a most useful guide for those upon whom devolves the responsibility of planning or inspecting systems of drainage. Though terse very little that is necessary for guidance is omitted, the work being evidently the outcome of much practical experience of the subject treated. Mr. Jensen first draws an ideal picture of what a sanitary inspector should be, but it is to be feared that few will fully attain to it.

The book, which is very systematic in arrangement, first reviews some of the various appliances used in drain-testing, &c. The course to be adopted by the inspector in conducting a survey is next pointed out and the various defects to be expected are described, while suggestions are made for their removal or remedy. Several illustrations both of defective and approved appliances are given, together with sundry block plans showing the most desirable arrangements for house drains under varying conditions. A chapter is devoted to describing the use of some of the testing appliances already spoken of. There is a point where the distinction drawn by Mr. Jensen is not quite apparent—viz., why on page 42 he so strongly and properly objects to the slop sink delivering over a gully while on page 48 he advocates that urinals should always do so.

A capital chapter furnishing hints upon taking notes and preparing reports is illustrated by examples which many engaged in such work might study both to their own and to their readers' advantage. The book is convenient in size for the pocket and we can strongly recommend it.

LIBRARY TABLE.

Skiagraphic Atlas showing the Development of the Bones of the Wrist and Hand, for the Use of Students and Others. By JOHN POLAND, F.R.C.S. Eng. London: Smith, Elder, and Co. 1898. Royal 8vo. Pp. 41. Price 5*s.*—This is in part a reprint of a portion of the author's treatise on the Traumatic Separation of the Epiphyses. It deserves, however, to be presented in this separate form, for it should prove of value to lecturers on anatomy, as the plates show very clearly the process of ossification of the bones of the hand, the wrist, and the distal ends of the radius and ulna. A description is given in the text of the development of each bone and the plates, which are reproductions of skiagrams, illustrate the appearance of centres of ossification and the times when they join. There are in all 19 skiagrams of the hand and wrist at various ages.

Animal Simples Approved for Modern Uses of Cure. By W. T. FERNIE, M.D. Durh. Bristol: J. Wright and Co. Pp. 566. 1899. Price 6*s.*—Although we cannot, like Dr. Fernie, approve of animal simples for modern uses of cure at least in every case, yet we must thank him for having collected for the general reader a vast amount of entertaining lore. There are but few of us who have the opportunity or the leisure to read through the pages of that immortal work "The History of Four-footed Beasts" by Topsell or the many sixteenth and seventeenth century popular works on Physick. Dr. Fernie, however, has extracted the salient parts of such works and arranged them in a handy form for reference.

The Chemical and Biological Analysis of Water. By T. H. PEARMAIN and C. G. MOOR, M.A. London: Baillière, Tindall, and Cox. 1899. Pp. 172. Price 5*s.*—This is Part II. of a work undertaken by these authors on the analysis of foods and drugs. Part I. was devoted to milk and milk products which has already been critically noticed in our columns. Part III. dealing with foods and Part IV. dealing with drugs are in preparation. The volume before us will be found a useful guide to those undertaking the chemical and biological analysis of water. The material is chiefly collated but the authors interpose with generally sensible remarks on the value of bacteriological and chemical examination respectively. Their remarks on the construction to be put upon the results obtained from an examination are fully in accordance with recent knowledge.

Chemistry for Photographers. By CHARLES F. TOWNSEND, F.C.S., F.R.P.S. Second edition; revised. London: Dawbarn and Ward, Ltd. 1899. Pp. 158. Price 1*s.*—This little work adequately fulfils the purpose for which it has been written. Photographers, amateur or professional, should know something of the chemistry of the processes concerned in the production of a photograph and such information should be easily derived from a perusal of the pages of Mr. Townsend's book. It is written to meet the requirements of the average amateur and technicality is as far as possible avoided. The book is well adapted for those who prefer, figuratively speaking, not to work in the dark. The fact of a second edition being issued tends to show that this contribution to the chemical side of the subject is appreciated.

The Essentials of Chemical Physiology. By W. D. HALLIBURTON, M.D. Lond., F.R.S. Third edition. London: Longmans, Green, and Co. 1899. Pp. 199. Price 5*s.*—This is the third edition of an eminently practical and well-known manual. Recent advances in chemical physiology have necessitated some revision in order to bring the work quite up to date. Dr. Halliburton as the result of considerable teaching experience knows exactly how to bring the subject in its practical relations before the student. The book deals with facts rather than theory and in a way which a student familiar with bench work cannot

fail to grasp. Dr. Halliburton divides his volume into two parts, the first comprehending an elementary course and the second an advanced course. In the appendix a description of the instruments and methods employed in physiological analysis are described. The book may be confidently recommended to the student who is anxious to commence a thorough and practical acquaintance with the essentials of chemical physiology.

Manual of Clinical Chemistry. By ELIAS H. BARTLEY, B.S., M.D., Ph.D. Philadelphia: P. Blakiston's Son and Co. 1899. Pp. 150. Price $1.—In a review of Dr. Bartley's text-book of medical and pharmaceutical chemistry which appeared in THE LANCET of March 18th, 1899, we suggested that the section in that work which dealt with physiological and clinical chemistry might form a separate handbook since the subject was so serviceably and suitably treated. The receipt from the publishers of the above manual shows that our suggestion has been adopted. We have nothing to add to our former remarks except that the book deals with a subject of first importance to the student of medicine and that in this manual he will find all the requisite facts and practical directions neatly and clearly placed before him.

Sewage Analysis. By J. ALFRED WANKLYN and WILLIAM JOHN COOPER. London: Kegan Paul, Trench, Trübner, and Co. 1899. Pp. 215. Price 7*s.* 6*d.*—We anticipated that we might have been able to congratulate Messrs. Wanklyn and Cooper on adding something fresh to this important subject, but frankly we cannot. Indeed, it is quite an elementary book on the subject, in which one of the authors—Mr. Wanklyn—takes the opportunity of making personal references and of emphasising his own contentions on his own pet subjects. He grumbles all through at the attitude of certain English chemists whose views differ from his own. He objects, for example, to the failure, as he calls it, of certain English chemists to express the results of the ammonia process on the only scale ever sanctioned by himself. He regards this "tampering with analytical results" as rapidly assuming the dimensions of a public scandal "and the originator of albuminoid ammonia warns those persons that the expression of the results in parts per 100,000 lays the analyst under the suspicion of representing the liquids as being ten times too pure." Again, he declares that the circumstances under which his work has been carried on—for example, the severance of all relations with the London Chemical Society—have operated advantageously to him. "The wave of fad and fallacy at present passing through the Chemical Society has not disturbed us in our laboratory." Then he tilts at the experiments of the late chemist to the London County Council in which purification of sewage by bacterial agencies was attempted and with some success. Mr. Wanklyn scouts the idea of bacterial agencies affording a satisfactory solution of the sewage problem. In this we fancy he is quite alone. There are two points in the book which are worthy of note and which somewhat redeem it from the impression that there is nothing new in it. These are the significance of carbonic acid in sewage and the process elaborated by the authors for the estimation of organic matters by the moist combustion process. Mr. Wanklyn has done excellent service in bringing forward methods for the detection of impurity in water and in sewage effluents, but he rather tends to belittle what he has done by taking up the futile and contentious attitude which marks his latest literary contribution.

Outlines of Physical Chemistry. By A. REYCHLER. Translated from the French by JOHN MCCRAE, Ph.D. London: Whittaker and Co. 1899. Pp. 268. Price 4*s.* 6*d.*—Physical chemistry is a branch of general science which has developed so much in recent years as to call for separate works on the subject. The little work before us is a translation from the French which had been commenced by the late Dr. Hurter whose untimely death, however, occurred soon after he had commenced this task. The work of translation was then taken up by Dr. John McCrae who is the demonstrator of chemistry in the Yorkshire College, Leeds. We congratulate him upon the result. Though a small work it is divided into four parts, the first dealing with the elementary laws of chemical combination, the atomic hypothesis (surely this should be theory), the gaseous state, the specific heat of elements, and the constitution of the molecule; the second part with the gaseous liquid and solid states; the third with thermo-chemistry, electro-chemistry, and the nature of salt solutions; and the fourth with chemical equilibrium, chemical dynamics, and hydrolytic dissociation. The appendix contains amongst other things a table of atomic weights and a table of the heat of formation of salts. As we have said, the subject dealt with is of increasing importance and it is satisfactory to find that facilities for obtaining a sound and intimate acquaintance with the principles concerned are by means of this text-book afforded to the student.

Milk, its Nature and Composition. By C. M. AIKMAN, M.A., D.Sc. Second edition. London: Adam and Charles Black. 1899. Pp. 176. Price 3*s.* 6*d.*—Dr. Aikman is a prolific writer on agricultural questions and the little volume before us is not the least important and interesting of his contributions. He writes scientifically, authoritatively, and clearly. The fact of a second edition of this little book being published speaks favourably of its reception. We thoroughly endorse the views expressed by the author in regard to the standard composition of milk. The following sentence, it seems to us, indicates a plain way out of the difficulties of establishing a definite standard. "Milk should be defined under the Sale of Food and Drugs Act as the normal secretion of the mammary glands of the cow." And he asks, Ought it to make much difference where the quality of the milk is so poor whether the sample has been adulterated in the technical sense—that is, been submitted to a watering process subsequently to its being obtained from the cow's udder or not? We would reply no, and we agree with Dr. Aikman that it is obviously unfair that a person who expects to obtain ordinary milk should be provided with abnormal milk. This little work must be reckoned as one of importance to agriculture as the author writes in no uncertain terms on the subject both on the technical and scientific sides.

A Short Practice of Midwifery, embodying the Treatment Adopted in the Rotunda Hospital, Dublin. By H. JELLETT, B.A., M.D. Dub., F.R.C.P. Irel. With a Preface by W. J. SMYLY, M.D. Dub., F.R.C.P. Irel. Second edition. Illustrated. 1899. Pp. 380. Price 6*s.*—We are not surprised that this book should so soon have reached a second edition. It gives a clear and concise account of the teaching of the Dublin School of Midwifery and is an admirable manual for its size. In this second edition some alterations have been made in the arrangement of the chapters and some 60 pages of fresh matter have been added. The main features of the book, however, remain the same. A very interesting table is appended showing the nature of the cases, 11,958 in number, treated in the Rotunda Hospital during the 10 years 1889 to 1898. From this we find that the average morbidity—under this heading is included every case in which the temperature rose even once above 100·8° F.—for the 10 years is one in 13·8. The average maternal mortality during the same time is one in 159, or a percentage mortality of 0·62. A second table is given showing the cause of death in each of the 75 cases which ended fatally during this period. These two tables add greatly to the value of the book: they furnish us with a number of important obstetrical data and enable us to form a clear idea of the value of the treatment advocated.

THE LANCET.

LONDON: SATURDAY, MAY 27, 1899.

THE session of the General Medical Council will begin on Tuesday next at 2 P.M. The *personnel* of the Council is unchanged save by the lamented death of Sir WILLIAM ROBERTS who never spoke much but whose quiet influence was always felt. His successor in the representation of the University of London is Dr. PYE-SMITH. The meeting promises to be a very busy and interesting one. It would not be difficult to name 16 or 18 subjects of great importance which will call for discussion apart from the penal cases and applications for restoration to the Register which generally take up two or three days of the Council's time. The subjects of spurious diplomas, of unqualified dispensers, of instruction in vaccination under the new conditions of the Act of 1898, of the inspection of the documents of the Council, of procedure in penal cases, of the examinations of the Apothecaries' Hall of Ireland, of the amendment of the Medical Acts, of increasing the stringency of the preliminary examinations, of medical aid associations, of the HUNTER case, and of an increase in the penal and disciplinary power of the qualifying bodies and of the General Medical Council, are all likely to occupy more or less of the Council's time, to say nothing of others which have been adjourned from past meetings. It would be well if the General Medical Council would take a lesson from the failures of another public body which is constantly overwhelmed with the variety of subjects which it undertakes to deal with and which by undertaking too much often does badly what it might do well. On the other hand, the critics of the Council will do well to recognise that in the very nature of things it cannot act with that precision and despatch which a body less complicated in composition and less vague in function and power might display. It has even more excuse for slowness in reform than Parliament has. It cannot make its own laws; it is, after all, an administrative and not a legislative body and must be taken and judged as such. It must be admitted that this is the view which is generally taken by the profession as regards the Council and its work and that with all the defects of its action and in spite of occasional errors of judgment it reflects pretty truly the general opinion of the profession. The action of the General Medical Council in the matter of unqualified assistants is a good illustration of this statement. The Council was slow to recognise its own powers in regard to an admitted evil. For many years it used its powers very sparingly if at all. At length it came to see that its powers were much greater than it had thought them to be and with two or three resolutions it abolished practically at a stroke the whole race of unqualified assistants.

It is probably owing to the representative constitution of the Council and to the slow and cautious use of its powers that the Government so frequently applies to the Council for its opinion on questions affecting the medical profession. The proceedings of the coming meeting will supply several illustrations. The Government of Italy, through the Italian Ambassador here, has applied to our Government for information in reference to the professional status of Italian graduates in this country and has sounded the Government to ascertain its views in reference to a system of reciprocity between the countries, in virtue of which those entitled to practise in Italy might be free to practise here and *vice versâ*. The Government has applied to the General Medical Council for its views and the answer of the Council will be watched with interest by the profession. Apart from the pleasure and duty of international amenity in such matters it is obvious that we have more to gain than to lose by entertaining proposals of the sort from most foreign countries. The Government has acted similarly in respect of a Bill to amend the Medical Acts transmitted to it by the Incorporated Practitioners' Society. The recent action of the Lord President in regard to the Midwives Bill is fresh in the memory of the profession. It is probably in this way that the General Medical Council will be able to do most good in influencing legislation affecting the health of the people and the rights of medical practitioners.

We do not intend to speculate as to the subjects to which the Council will devote most of its attention. But there can be no doubt as to two or three great questions into which it should put all its power and judgment. One of these—perhaps the greatest of them—is the elevation of the standard of preliminary education. The action of the Council and of its Education Committee has already stirred the educational bodies affected and called forth some complaints of partiality and unfairness. These complaints must be investigated by competent and unprejudiced persons. But the Council cannot escape from its responsibilities in this matter. The raising of the standard of the education of medical students can only be secured by a thoroughly sound general education, and this must be carried out by the action of the General Medical Council. It is not called on to make any unreasonable demands, but it is required to fix a much higher standard than the present for entrance into the profession. Another very urgent matter calling for attention is the amendment of the Medical Acts. It is obvious to all that the penal clauses of the present Acts are most uncertain in their operation. The Council will shortly be called upon to sanction the outlay of £142 for a perfectly ineffective prosecution under the Medical Acts in Scotland where the matter to most people was as clear as daylight. Other cases point in the same direction. It is in the interest neither of the public nor of the profession that such a state of the law should exist and the General Medical Council itself is the body which should move for the amendment and that without delay. We have noticed only two subjects, either of which might occupy with advantage two days of the Council's time. But there remain the questions of medical aid associations, of the action of the Council in the HUNTER case, penal cases of some novelty and much interest, and the very pressing question of increased disciplinary powers for the degree- and diploma-granting bodies as well as for the General Medical Council—from all of which we shall not be far wrong in prognosticating a week of arduous

work. The reports, also, of various committees will demand the attention of the Council. One of especial importance emanates from the Education Committee and deals with the use of the first of the five years of the medical curriculum and the recognition of schools as teaching institutions where chemistry, physics, and biology are taught. Upon these points a lively controversy is likely to arise.

IF we remember aright M. TAINE, with the terse and graphic exaggeration which so often characterises the expressions of French writers, declared that a degree of heat more or less, an inclination of the soil, and racial descent, were the primary causes of our faculties and passions. Be this as it may, no one denies that the sum of all the meteorological and physical conditions which make up what we understand as the climate of any given place has a considerable influence on animal and vegetable life. Notwithstanding the remarkable power of adaptability to climate which man possesses it does not belong to every man. And it must be borne in mind that the constitutions of all of us have to accommodate themselves to the environing conditions and not *vice versâ*, for it is certain that no change will occur in these conditions in order to harmonise them with the requirements or needs of living beings. From the slight and relatively insignificant changes which ensue on the first arrival of an immigrant into a new locality and climate it is conceivably easy to trace our way up to those greater, more appreciable, and more enduring modifications in a race embraced in the term "acclimatisation." Whether a traveller freshly arrived in a new locality appreciates or not the effects of a change of climate his organism does not fail to do so; it has to accommodate itself to its new surroundings and may be said to be in a state of unstable equilibrium whilst doing so. This does not, however, imply that a hot climate must necessarily be injurious to the European and can only be overcome by some powers of resistance acquired by residence. During this physiological process of adaptation, or "seasoning" as it is often called, his system manifests an increased vulnerability or susceptibility to the diseases incidental to the conditions of a new environment: the bodily functions become exaggerated or perverted; overstepping their limits the physiological may easily become pathological; in short, the newly arrived unacclimatised resident has to submit to nature's test of the survival of the fittest. In connexion with this subject the article on The Influence of Warm Climates on the Constitution, by Dr. EDWARD A. BIRCH, in "Davidson's Hygiene and Diseases of Warm Climates," is worth reading, especially in reference to the effect of these climates on the physiological functions. That residence in hot climates under the circumstances of ordinary life has an adverse effect upon Europeans cannot, we think, be doubted. Some constitutions seem to be altogether unfitted for these climates and such individuals lose their health and physical energy from the moment of their arrival. A still larger number do so sooner or later under a more protracted residence, even if they escape being attacked by one or other of the endemic or epidemic diseases incidental to such climates. Residence in tropical and subtropical countries usually produces a very appreciable effect not only on the complexion but on the constitution and notably so during childhood and youth.

Thus far, however, we have mainly spoken of the effects of climate in a restricted sense—namely, on the individual unit and not on the race; but it is only on the latter that acclimatisation, as understood by naturalists and climatologists, really comes in, for one must count by generations and not simply by years for the completion of that process, because by acclimatisation we understand the adaptation of animals and plants to a climate different from their own brought about by a slow and gradual series of changes the effects of which are of an enduring and more or less permanent character. In studying the physiological and racial changes which have taken place in order to adapt and harmonise the inhabitants of the world with the different climates in which we find them we need to have recourse to time in a geological rather than an ordinary sense; and many authorities even go so far as to doubt whether true and perfect acclimatisation ever takes place. They point to distant ages in the past in which we have evidence of the existence of the various types of the human family such as they exist in the present day and they declare that nature has herself imposed insurmountable barriers to the white man's permanent occupation of the territories occupied by black people. The degree of difference of temperature, to take one great element in the problem, may be such as not only to prejudice but to prevent the survival of a transplanted race and to render it impossible to establish a durable colonisation.

It seems to be pretty well established that the Semitic peoples possess a power of acclimatisation or adaptability to climate superior to that enjoyed by the Aryan races; and among the latter the inhabitants of the South, the Spaniards, the Portuguese, the Maltese, and the Sicilians are superior to those of the North. Next to the Jews the Gipsies are the most cosmopolitan. The admixture of a foreign blood, too, in a remote past seems to confer a power of resistance to the prejudicial effects of climate, and half-castes manage to survive in climates inimical to white men.

Climate and acclimatisation have been discussed in numerous treatises and books and have formed the subject of many papers and debates at international and other scientific congresses. It is altogether too large a question to be usefully considered here. But on a more limited scale and in the restricted sense in which people ordinarily speak of acclimatisation they mean the changes which ensue on the arrival of an immigrant into a new country, the risks to health and the diseases which he has to encounter, and the steps which he can and should take in order to minimise such risks as far as possible.

To take a case in point. The American nation have entered upon a new, and in a sense Imperial, policy which may be regarded as forming an epoch in their history. This brings them face to face with the problem of colonisation and acclimatisation—a problem which we have had to confront long ago and towards the solution of which we have ever since been slowly fighting our way by following on the lines of the best practical measures of hygiene known to us. Professor VIRCHOW, in his address at the Congress of German Naturalists and Physicians at

Strasburg in 1885, called attention to a sphere of research in which he alleged that neither the English nor the French had hitherto accomplished much of importance in connexion with the phenomena of acclimatisation—namely, the modifications of the organism and particularly of the special alterations of each organ. The time has arrived, however, when we trust this reproach will no longer be applicable to this country, for it is now fully recognised that scientific inquiry into these subjects and into the nature and origin of the maladies of tropical and sub-tropical climates must go hand-in-hand with practical measures of prevention. "The white man's burden" has proved a tragical one in its drain on the life of the young manhood of this country, notwithstanding the very large measure of success which has attended our sanitary efforts in this direction. The Americans having taken up their burden will, no doubt, like the practical people they are, set about their task in a practical way.

The four principal factors in the production of climate, according to BUCHAN, are—distance from the equator, height above the sea, distance from the sea, and prevailing winds. The equatorial region has the most equable climate; tropical regions have much greater variations of temperature than those near the equator and have a hot and cold or dry and rainy season. The isothermal lines of mean temperature do not supply a graduated measure of the effects of temperature on animal life. So far as climate is concerned no single meteorological influence appears, however, to equal the effect of temperature upon health, and its range is of more importance than its mean. The European under a tropical climate suffers from anæmia, diseases of the digestive system, especially of the liver, from malaria, dysentery, typhoid fever, and yellow fever. It is not at all easy to say, however, how much of the excess of mortality of Europeans in tropical and sub-tropical countries is simply attributable to climatic heat *per se* and is consequently inevitable and not the effect of malaria, or how much of it is the direct consequence of habits of life and of the neglect of sanitary laws and of personal hygiene. Biological researches, too, in relation to health and diseases have revolutionised our views in many respects by showing that many specific diseases are, either directly or indirectly, caused by germs, and investigators have nowadays to be naturalists in addition to their other qualifications. Climatic conditions probably constitute an important factor in the multiplication, development, and diffusion of microbic germ diseases, but this is a branch of bacteriology which has hitherto been comparatively little studied. As ARNOULD rightly said, the *habitudes alimentaires* of the Anglo-Saxon constitute one of the stumbling-blocks to health; but by far the most important is malaria, compared with which the rest are relatively insignificant. Mr. CHAMBERLAIN was right when he said the other day that "the man who shall successfully grapple with this foe to humanity and shall find a cure for malarial fever and shall make the tropics liveable for the white man will do more for the world and more for the British Empire than the man who adds a new province to the wide dominions of the Queen."

If mosquitoes be the sole vehicle for the conveyance of the malarial parasite to man and the particular kind known as *anopheles* be alone concerned in this traffic Major ROSS, I.M.S., may be right in holding that we may eventually stamp out malaria by attacking the easily accessible puddles in which it is bred. But we have, as a matter of experience, already gone sufficiently far to have made it evident how efficacious is the application of the simple hygienic precautions adopted by England. In proportion as good water, pure air, and suitable food have been supplied to soldiers serving abroad so have the deadly effects attributed to climate decreased or disappeared. Climate appears to require something superadded to it in the way of malaria or the fostering aid of sanitary neglect and improper living to develop its worst effects. As regards India, for example, the report of the Royal Commission of 1863 states that prior to 1857 the mortality rate among our troops reached 69 per 1000, whereas the report of the Sanitary Commissioner with the Government of India for 1896 records it as only 14·84 per 1000 of strength. There were, of course, many other factors which contributed to this result besides sanitary improvement, still the figures serve to show what may be done and to indicate the directions in which steps can be taken to bring about these results.

In order to give a practical turn to our observations we may as succinctly as possible point out what should be aimed at in the case of intending colonists or of a military expeditionary force proceeding for service in a tropical or sub-tropical country, and this we propose to do on a subsequent occasion.

"THE causes of female disease distinctly traceable to the practice of continually standing in shops are so many and various that we have been compelled to take action in the matter." Thus we wrote in 1880 and the publication by us of a black list had considerable effect in ameliorating the conditions under which certain shop-girls worked at that time. Since then something further has been done in the way of early closing to mitigate the evils of long standing in shops by affording the girls opportunity for recreation, but there are still firms, we are sorry to hear, who compel their employées to stand all day long, and our statement of nearly twenty years ago with regard to the evils of this practice remains as true to-day as it was then. At a recent meeting at St. Martin's Town Hall held under the auspices of the Early Closing Association attention was called to the Seats for Shop Assistants (Scotland) Bill and the action of Lord SALISBURY in bringing about its rejection in the House of Lords was severely condemned. It is true, as Lord SALISBURY pointed out, that the Bill was too small, relating as it did to Scotland only, but we are at a loss to understand his lordship's analogy when he says that the Bill causes the image of the housemaid to cross his mind, suggests that legislation of this kind if once permitted would have to be extended to households, and asks whether the public would be prepared to have an army of inspectors to examine every house to see that there were a sufficient number of chairs placed at stated intervals so that at each moment of exhaustion the housemaid might sit down in comfort. Lord SALISBURY'S well-known causticity of humour here led him astray. Domestic servants are not

placed in the same environment as shop-girls, and arduous as their work undoubtedly is and overstrained as too many of them are by inconsiderate mistresses, and still more by inconsiderate upper servants, yet as a class we think they receive and take opportunities of occasionally sitting down.

We as medical men maintain that sitting accommodation and opportunities for the use of that accommodation are absolutely necessary for shop-girls, especially having regard to the conditions under which they pursue their daily labours. The only argument having even the semblance of legitimacy which we have heard put forward in defence of the non-provision of seats is that sitting is conducive to idleness, but in this connexion such a premiss cannot be admitted, for an employée would be bound to come forward when an intending purchaser entered the shop and, moreover, the fact that a girl was able to sit down would not prevent her from performing the many duties of packing and folding which might be necessary after the visit of a customer. This perhaps does not apply to the heavy departments, but here for the most part men are employed; it does, however, apply to the light or fancy departments where girls serve. Again, if the employée were allowed to sit down and rest she would be able to recuperate in some measure the loss of strength entailed by long hours and thus to do for her employer a great deal better work than she is at present able to accomplish. The very fact that in many shops she is *not* allowed to sit down *is* conducive to idleness—idleness of the worst kind: the idleness of pretending to do something whilst in reality nothing is being done, and it is noteworthy that many employers encourage this. They fondly imagine that their customers can be cheated into the belief that a great deal of business is being done if their employées are made to be seemingly always at work and goods are packed and unpacked, repacked and dusted *ad infinitum* to this end. The device is as transparent as it is ludicrous.

Can nothing be done to stop this—as we once called it without the least exaggeration or sensationalism—"cruelty to women"? The women who are most concerned dare not complain for fear of losing their situations. What, then, is the remedy? The publication of our black list was productive of good results, but the real prevention of this abuse of labour rests almost entirely with the women who deal with the firms who are cruel to their employées. There are many women, we know, who, alas, have no sympathy with other members of their sex, and who for the sake of merely passing an idle hour compel shop-girls to show them article after article while at the same time they know that their purchase will ultimately be a small one or even nothing. To these we do not appeal, but leave them to be dealt with by the humane, and larger, majority of their sex. To the true woman—the woman with feelings for her sisters, the woman of love and sympathy, the true woman in every sense of the word—we appeal for help in this matter. If such women would abstain from purchasing at shops where they see that the employées are compelled to work from morning till night without permission to rest from their labours even when opportunity occurs, we should soon see the end of a practice which ruins the health and shortens the lives of many of our shop-girls. To such women we feel that we shall not appeal in vain, especially when we remind them that the physical vigour of the future race depends even more upon the health and strength of woman than it does upon the health and strength of man. This and the fact that on the health of many of these girls may ultimately depend that of a future generation will, we feel sure, appeal to women as a majority, and their love, their sympathy, and even their loyalty to the race to which we are all proud to belong will stimulate them to the utmost degree to put an end to this "cruelty to women."

THE report of the special committee appointed by the Pathological Society of London to consider the nomenclature of the condition sometimes described as "pseudo-tuberculosis" will be received, we think, with favour by the profession. The addition of the prefix "pseudo" to a pathological condition or a disease is to be deprecated and is sure to give rise to confusion, and the suggestions made by the committee will, it is to be hoped, render the term "pseudo-tuberculosis" superfluous and cause it to be altogether discarded.

It is, however, to another portion of the committee's report that we wish to draw special attention and that is as regards the employment of the terms "tubercle" and "tuberculous." These two words, together with another term, "tubercular," have been very loosely used, many, if not most, writers apparently considering them to be entirely synonymous. For our part we have for years past endeavoured very carefully to differentiate in the use of the adjectives "tuberculous" and "tubercular," meaning by the former the lesions caused by the disease produced by the tubercle bacillus of KOCH, and by the latter a formation presenting the physical appearance of a nodule not so caused. We especially welcome, therefore, the recommendations of the committee as expressed in their report that the word "tubercle" should no longer be used as a general anatomical term, but should be only employed as a designation of the nodular lesions produced by the tubercle bacillus. To prevent ambiguity, however, it might be still better if all lesions having the form of "tubercles" were called generally "nodules," those produced by KOCH'S bacillus being distinguished as "tuberculous nodules," and if the nodules produced by other causes were in like manner distinguished by a prefix indicative of their cause. We notice that the term "tubercular" does not appear in the report and we trust in future that its use as a synonym of "tuberculous" may be abandoned. Medical phraseology is already sufficiently copious and any redundant or ambiguous words or phrases may well be obliterated. Many committees have from time to time been appointed by various societies; some have done good work, others have so delayed the issue of their reports that their suggestions have greatly lost their value owing to the lapse of time, whilst the valuable efforts of others have never been known beyond the actual members of the committee. The committee, however, to whose report we have briefly referred have done their duties promptly and well and deserve the thanks, not only of the society of which they were representatives, but of the whole scientific world.

Annotations.

"Ne quid nimis."

THE QUEEN'S EIGHTIETH BIRTHDAY.

THE Queen is a wonderful old lady. The homely phrase will not, we trust, jar upon the susceptibilities of our readers when applied to the powerful and august leader to whom so many millions owe faithful allegiance. We use it designedly as expressing the tender feeling towards Her Majesty as the Mother of her People which we know to be universal in her realms and which peeps out in every formal or gorgeous celebration which her prolonged reign among us gives occasion for. "A wonderful old lady" is the affectionate expression of admiration and esteem which in the family circle is universally given to the head of that family whose age does not preclude her from rightly filling the position of head. With admiration her juniors note that years do not blunt the susceptibilities of the patriarch, that the heaped-up trials and successes, joys and griefs of a long life have not deadened her sympathies to the new things, the new developments, the new ideas, which were unheard of in her own youth but which now constitute so much of the lives of her grandchildren and younger descendants. The "wonderful old lady" brings to face the troubles of the hour the accumulated experiences of a lifetime and before her wisdom the troubles dispel themselves. What she approves of all her family will find worth their approbation, what she turns from will certainly be found to have its trivial or unworthy side. It is in this way that her subjects are proudest to regard Her Majesty. Her reign has been unsurpassed in its developments. With all of these she has managed to remain in close touch, appreciating that which is good in them and exercising a very judicious restraint upon that which is not. And now at 80 years of age, in complete possession of all her faculties, she spends the evening of her days in caring for her people, sharing their joys, dividing their sorrows, and presenting in all events a splendid example of dignity, good sense, and loving-kindness. Our Queen is a great queen and also "a wonderful old lady."

THE APPOINTMENT OF COUNTY MEDICAL OFFICERS OF HEALTH.

WE have on previous occasions written on the advantages of the appointment of a county medical officer of health as distinguished from a district medical officer. Many county councils, however, seem to regard a county medical officer as something to be avoided. In THE LANCET of Jan. 28th we recounted how the Wiltshire County Council had decided to appoint a county medical officer while the neighbouring county of Somerset had refused to do so. We are sorry to have to chronicle the same piece of shortsightedness on the part of another county—namely, Hampshire. A quarterly meeting of the Hampshire County Council was held in Winchester Castle on May 15th when the report of the General Purposes Committee was brought up. The report stated: "Your committee are of opinion that it is inadvisable to appoint a medical officer for the county, but they consider that more attention might well be devoted to the consideration of the annual reports of the medical officers of health of the several urban and rural districts and they propose to appoint a special sub-committee for that purpose ..... they find that a competent medical officer for the county could not be secured for a less salary than £600 a year, exclusive of expenses." Colonel Grimston, the chairman of the committee, related a harrowing story about a friend of his own, a property owner in the north, who told him that the county had appointed a medical officer of health who had become a perfect nuisance. He (the medical officer) was an exceedingly nice man personally but his name stank in the nostrils of the county gentlemen because he was always interfering—he was obliged to make work and whenever he appeared people were afraid he was going to take action. The Hants County Council were so struck by this tale that they accepted their committee's report without discussion. We set forth the reasons why a medical officer of health for the county is a desirable official in THE LANCET of Nov. 26th, 1898, and Jan. 28th, 1899, and we need not recapitulate them here except to say again that in sanitary matters, as in everything else, there must be a central head.

THE MEDICAL FACTOR IN IMPERIAL EXPANSION.

THE Protectorate of British Central Africa, from its inception to its completion, is the work of two men, both of them medical missionaries, Dr. David Livingstone and Dr. James Stewart. It is a magnificent contribution to the great work of which the closing century has seen the beginning and of which the coming century will see the development—the reclamation of the Dark Continent to its place in the evolution of humanity. Religion and medicine, not in antagonism, but going hand in hand, *viribus unitis*, must be credited with this achievement, and it is to the honour of both professions that they freely acknowledge the services which each owes to the other in the common result. In THE LANCET,[1] in commenting on the great meeting held in Glasgow for the promotion of medical missions, we dwelt on this harmonious coöperation of religion and medicine and we pointed out how the British Empire, in its policy of expansion, enjoys through this coöperation an advantage shared in equal measure by no other rival. True, Cardinal Lavigérie, in his splendid work for the civilising of the Sahara, did not neglect the healing art as an instrument towards that end. But his organisation of the Christian Brothers, in its preponderance of the proselytising element and in its preference of the military to the medical arm, was far inferior to its British counterpart, as indeed is already proved by results. The more the civilising power keeps the display of force in the background and makes moral suasion its distinctive method, the more its success in winning over the aborigines and in welding them into the higher social organisms which it seeks to consolidate. To impress such peoples with the superiority of the new to the traditional order the effort of the missionary is accelerated incalculably by his knowledge of Nature and her forces; by his utilisation of these to meet existing wants; above all, by his power to exorcise epidemic disease and to avert from its hereditary victims "the shaft that flies in darkness." Medicine, which is simply nature-study in its highest, most complex, and most refined form, represents that moral agency at its acme and impresses the savage mind with corresponding power and effect. This truth was well known to Dr. Livingstone, as may be read even between the lines of his most purely missionary publications, and it was thoroughly grasped by Dr. Stewart, "his assistant and successor." Trained for the Church, after previous qualification in the arts curriculum of Edinburgh University, Stewart at this stage was attracted by Dr. Livingstone's "Missionary Travels," and as a step towards following in his footsteps he added nature-study in its medical department to his "armamentarium." Having graduated M.D. he threw himself into missionary enterprise, the peoples of East Central Africa being his first objective. The record of

[1] THE LANCET, March 18th, 1899, pp. 785.

his career from 1860 onwards is one of the most interesting and inspiring of the century—an example of how far and to what altitudes the religious enthusiast reinforced by nature-study can attain. Another coadjutor in his work of establishing the East Central African Mission—"Livingstonia," as he called it from its original promoter—was Dr. Robert Laws, also a graduate in medicine as well as theology, and their conjoint work, congenially reinforced, soon became the parent of other enterprises. Another Scottish Mission, another English Mission, and two German ones followed, and "the five have created the vast colony of British Central Africa and Rhodesia stretching from the Zambesi north to the Congo Free State and Lake Tanganyika." So writes a highly competent narrator of Dr. Stewart's life-work in the *Scotsman* of May 18th and from the same authority we learn that the medical missionary is in the day now passing proving himself—on the lines of his predecessors—the pioneer of political, commercial, and humanitarian developments to which no other colonising power can produce anything equal or even approaching. Railway extension is soon to follow—a resource for which the Foreign Office has been petitioned by the British Central Africa Chamber of Commerce. The imagination loses itself in forecasting the outcome of this splendid example of British science, British philanthropy, and British energy all working together with missionary effort. Already we hear of "another Lovedale" where "the choice youth of the 11,000 natives under instruction in five centres are trained to be captains of labour, catechists, printers, teachers, telegraphists, and pastors of self-supporting churches." It is not difficult to understand the enthusiasm which such results can arouse and maintain in the missionary explorer. Dr. Stewart himself, now 68 years of age and Moderator of the Free Church General Assembly, contemplates, we understand, a return to the scenes of his humanitarian conquests, and will take with him coadjutors reinforced from the youth who are smitten with the generous contagion of his spirit. Amid the complaints echoed from every quarter of the old European state-system as to the over-stocking of the professions here is a source of relief from the exhaustion of competition. The young man who as a practitioner in some industrial centre can hardly make ends meet may transfer the struggle to other and not less noble fields—fields remunerative in every sense and teeming with illustrations of the truth that nature-study in its highest form and in the power which it confers is never thrown away.

AN ACT TO REGULATE DISPENSARIES IN NEW YORK.

THE *Medical Record* of New York of May 6th devotes a leading article to praise of "a new Act to regulate the conduct of dispensaries." The abuse of these institutions seems to have corresponded very much to the abuse of the out-patient department of our hospitals and to have amounted to "a glaring scandal." By the Act all dispensaries, whether public or private, are placed under the control of the State Board of Charities. Power is also given to the same body of licensing or revoking the licences of dispensaries, but this does not apply to those already incorporated. The licence in this case can only be revoked by appeal to the Supreme Court. The State Board is also charged with the duty of drawing up regulations for the conduct of the dispensaries to which the latter are required strictly to adhere. The law further enacts that any person obtaining medical relief by false pretences shall be guilty of a misdemeanour and liable to a fine of not less than 10 dollars and not more than 250 dollars. Everything will depend on the working and the application of this Act and we shall welcome all good reports on the subject by our contemporary. It is to be hoped that those who are responsible for the management of our medical charities will take note of this new departure in the United States. We sincerely trust that reform will come in our country without an appeal to legislation. But it is high time that the committees of our dispensaries and hospitals should begin to show that voluntary action is sufficient to remedy the abuses complained of.

THE SCANDAL AT THE LIVERPOOL HOSPITAL FOR CANCER AND SKIN DISEASES.

THE recent *dénouement* at the Liverpool Hospital for Cancer and Skin Diseases points to a very undesirable condition of affairs as existing at that institution. As some of the matters in dispute will probably be the subject of investigation in a court of law we confine our observations to facts which have already become public property. The staff of the hospital has hitherto consisted of three medical officers and three assistant medical officers, the former being Mr. J. D. Crawford, Dr. J. Stopford Taylor, and Dr. William Whitford. At the end of the year 1898 a sub-committee of five members of the general committee was appointed to inquire into the internal management of the hospital. The three medical officers received invitations to offer suggestions as to any improvements which they considered to be necessary for its better management and to send any specific complaints which they desired to make. Dr. Taylor and Dr. Whitford alleged against Mr. Crawford that private patients were sent by him to the hospital for the purpose of having their medicines made up at the expense of the hospital. They also alleged that he had used the hospital in other ways for his own advantage and that he had behaved in an indecent manner to some of the nurses. Mr. Crawford also made certain allegations against Dr. Whitford, not of a serious nature. The sub-committee met on several occasions and finally reported that the charges made against Mr. Crawford had not been proved and they recommended a revision of the medical staff. The committee thereupon called upon Dr. Taylor and Dr. Whitford to resign their appointments. These two gentlemen declined to accede to the request of the committee who referred the matter to the general body of the subscribers. Prior to the subscribers' meeting a general meeting of the Liverpool Medical Institution was summoned when a resolution was proposed protesting against the dismissal of Dr. Taylor and Dr. Whitford. After considerable discussion the previous question was moved and carried. It was felt by a considerable body of the members that the society should not pledge itself to take part in matters which were still *sub judice*. No official opinion on either side was expressed. A memorial signed by 108 practitioners in Liverpool, comprising a number of the leading members of the profession, was addressed to the subscribers setting forth the opinion of the signatories that, in the interests of justice and for the welfare of the hospital, an independent inquiry was demanded. Dr. Taylor and Dr. Whitford at the same time sent to the subscribers a pamphlet containing an exhaustive criticism of the sub-committee's report in which they alleged that the committee had ignored several important points of evidence. A general meeting of the subscribers was summoned for May 10th to consider the report of the committee calling for the resignations of Dr. Taylor and Dr. Whitford. After a heated discussion the action of the committee was sustained by 44 votes to 20. An amendment moved by Mr. James Lister "that this meeting of subscribers and donors, being dissatisfied with the result of the investigation of the committee of the hospital, desire that the Lord Mayor be appealed to to appoint a committee to inquire into the charges, and that the Lord Mayor be requested to ask the committee to inquire into the matters raised in the

report," was defeated by 45 votes to 33. Mr. Lister said he had already spoken to the Lord Mayor who had expressed himself willing to undertake such a step if requested. A proportion representing 42 per cent. of the subscribers present were thus dissatisfied with the report of the committee. It is also alleged that 36 individuals had qualified as governors at the minimum amount a few days before the date of the meeting in order to vote on the proceedings. Should this allegation prove to be correct the laws of this institution are in need of drastic reform. At the majority of the Liverpool charities the rule is enforced that a governor or trustee cannot vote in general meeting unless his subscription shall have been paid prior to a period of three months. The rule is obviously a wholesome one, framed for the purpose of preventing abuse. The resignations of two out of the three assistant medical officers have also been announced as well as that of the matron. The charity is clearly in an unsatisfactory condition and we hope that the subscribers will demand an independent inquiry.

A SCHOLARSHIP FOR MEDICAL RESEARCH.

THE Technical Education Board of the London County Council is coöperating with the Asylums Committee in offering a valuable scholarship of £150 a year tenable for two years for students of either sex (preferably qualified practitioners) to enable them to carry on investigations into the preventable causes of insanity. The lady or gentleman appointed to the Scholarship will carry on investigations in the pathological laboratory attached to Claybury Asylum. A similar scholarship has been held during the past two years by Dr. J. O. W. Barratt, who has carried on valuable original investigations into the causes of insanity, many of which will be published in the Archives of the Pathological Laboratory of the London County Asylums, the issue of which is imminent, under the editorship of the director, Dr. F. W. Mott. Dr. Barratt has recently been appointed Pathologist at the Wakefield Asylum and the scholarship which he has held is therefore vacant. Applications should be made to the secretary of the Technical Education Board, 116, St. Martin's-lane, W.C., not later than Wednesday, June 7th.

A VACCINATION CASE.

AN action of some importance to the medical officers of prisons and other public institutions has been decided in Glasgow. The case was at the instance of John Lamb Thomson against Mr. J. Devon, medical officer of Her Majesty's prison, Glasgow, claiming £500 as damages for assault alleged to have been committed on him by Mr. Devon on Dec. 28th, 1897, when Thomson was a prisoner in Duke-street prison, Glasgow. The Sheriff-Substitute, before whom the case was first considered, heard a proof lasting four days and thereafter gave judgment in favour of the defender and found him entitled to expenses. The pursuer then appealed to Sheriff-Principal Berry who has adhered to the decision of the Sheriff-Substitute and has found the appellant liable in the expenses of the appeal. In a note Sheriff-Principal Berry states that the question of liability in damages, either substantial or nominal, depends upon whether Thomson is to be held to have consented to vaccination by Mr. Devon. If he consented there was no assault, but if he did not consent there was an assault for which there would be liability in damages, though the amount of these would be for further consideration. There was an original plea by the pursuer of carelessness or negligence on the part of Mr. Devon, but that was not urged before the Sheriff-Principal, and the only question was one of assault. It was contended for the pursuer that he was led to suppose that his vaccination was a part of the prison discipline and that though he might not have openly objected to the operation there was merely submission to authority on his part as distinguished from consent necessary to relieve the medical man from liability for assault. On the question of fact the Sheriff-Principal had little hesitation in agreeing with the Sheriff-Substitute that the pursuer was not under the delusion that the operation was required by the rules of the prison and that Mr. Devon had made no such representation to him. The pursuer, indeed, stated that he was vaccinated without knowing and that it was done before he was aware of what was going to be done, as he supposed he was about to be shackled. The pursuer's explanation had struck the Sheriff-Substitute as very like either an afterthought of his own or an outside suggestion and the Sheriff-Principal agreed that Thomson knew well enough what was afoot. Mr. W. J. Begg, the secretary of the local Anti-Vaccination Society, acted as agent for Thomson, while the solicitor and clerk to the police department of the Glasgow Corporation acted for Mr. Devon.

THE PHARMACOLOGY OF CHLORIDE OF LIME.

IN the *Archives de Médecine Navale* for April Dr. Paul Petit calls attention to the merits of chloride of lime as an external application in surgical, ophthalmic, and gynæcological practice and also as an injection in affections of the rectum and bladder. In the absence of the substances usually employed, or, as he thinks, preferentially, we possess in this white powder which is universally procurable a remarkably efficacious and absolutely harmless antiseptic. Hitherto chloride of lime has been almost exclusively relegated to the sweetening of latrines and such like service, but it amply deserves elevation to more noble usage. In times gone by Labarraque's fluid (liquor sodæ chlorinatæ, B.P.) was largely utilised by medical men and to this day there are progressive practitioners who, nevertheless, have recourse to the old-fashioned medicament in the treatment of crural ulcers, syphilides, throat affections with false membranes, blennorrhagia in the male, purulent ophthalmia, &c., and yet the untitled solution of chloride of lime, which is 10 times more active than its congener and does not, like it, irritate the tissues in the least, is totally ignored. According to Chamberland and Fernbach a solution of chloride of lime containing 77 per cent. of chlorine to the litre is very energetic, acting more efficaciously on moist germs than Javel water or Labarraque's fluid, and, in fact, possessing about the same power as a 1 per cent. solution of corrosive sublimate. The antiseptic properties of chloride of lime do not depend upon the strength of the solution, being at their maximum when the chlorine exists in the above proportion; but if desired a more concentrated form may be employed without any fear of bad results, as Calmette's experiments against the venom of snakes have shown conclusively. In common with most of the chemical disinfectants chloride of lime acts best when warm and should before being used be heated up to from 110° to 120° F. In conclusion Dr. Petit sums up his case as follows: a solution of one part of chloride of lime to 120 of water is very powerfully antiseptic, ten times more so than Van Swieten's liquid, and since it is neither toxic nor caustic it may be regarded as absolutely inoffensive. Moreover, chloride of lime not only cleanses but softens albuminoid matter, instead of converting it into tough coagulum. The cost being infinitesimal it may be freely used in operative surgery for disinfecting large objects such as basins and jugs, tables, &c., and also for washing floors and walls. The only objections to chloride of lime are its clinging smell and its corrosive action on metal. Washing the hands in a weak solution of muriatic acid will remedy the first defect and a little attention the second. Incidentally, Dr. Petit remarks that premises before undergoing

disinfection should be moistened because germs when moist are much less resistant than in the dry state. In this connexion the following quotations from a whilom authority[1] will be of interest: "As an antiseptic, Labarraque preferred the hypochlorite of soda, on the ground that by the process of disinfection it becomes chloride of sodium, which is not a deliquescent salt; whereas the chloride of calcium generated by chloride of lime, attracts water from the atmosphere, and thereby furnishes one of the conditions (viz., moisture) necessary to the putrefactive process. Hence, in his opinion, while chloride of lime will serve equally well for mere disinfection, chloride of soda is preferable where we wish at the same time to prevent a renewal of putrefaction."

THE CARLTON HOTEL AND THE ST. JAMES'S VESTRY.

IT may be remembered that Messrs. Waring, Limited, were summoned recently by the St. James's Vestry (as the local sanitary authority) for having disregarded the by-laws made by the London County Council under the Public Health (London) Act, 1891. The offence consisted in fitting up the sanitary arrangements of the new Carlton Hotel in Pall Mall in such a way that nine soil-pipes were placed inside instead of outside the structure. For the defence it was urged that it would be unreasonable to compel Messrs. Waring to pull down half the structure—a very magnificent building which had cost nearly half a million sterling—to alter the admitted defect, and it was submitted that a small penalty would meet the case with the understanding that future proceedings should not be taken against the hotel. Mr. De Rutzen adopted this view and imposed a fine of £2 with £10 10*s.* costs. Mr. Mark Judge has now written to the London County Council to say that if the St. James's Vestry have endorsed the view put forward in their name before Mr. De Rutzen they have made a default in doing their duty. That he is right strictly speaking no medical man we think can deny. It is bad that an enormously expensive and otherwise perfect building should be half destroyed at an immense loss of capital and labour. But it is very bad that the soil-pipes should be in the wrong place. We should certainly feel bound to support the London County Council if in the dilemma they placed the interests of public health first and took steps to insist upon the observance of their by-law.

A MEMORIAL STATUE TO SIR THOMAS BROWNE.

"THE opinion has long been held and the feeling often publicly expressed, both locally and elsewhere, that some permanent memorial of our great philosopher and eminent writer, Sir Thomas Browne, M.D, should be erected in the city of Norwich where he resided for forty-six years and in which he died in 1682. During his lifetime and shortly after his decease his chief works, especially the 'Religio Medici,' 'Christian Morals,' 'Vulgar Errors,' and 'Urn Burial,' passed through many editions, the first of these through no less than 13 in England and 11 in foreign countries, and now after the lapse of more than two centuries they are again being re-edited and widely read and studied. It is not too much to say that they are regarded with ever-increasing appreciation and with a recognition of the immense power and profound learning displayed in them." This passage is taken from a circular which is being disseminated by a very influential general committee in behalf of a fund to erect a statue in Norwich to the famous medical philosopher, and in another column of THE LANCET will be found a letter from Sir Peter Eade bringing the matter prominently to the notice of our readers. The movement, to which we have already referred, is one that has our heartiest sympathy. Other men of like eminence in literature, art, and science have had their memories perpetuated in this way in the localities associated with their names, and the time has arrived when the eloquent author of the "Religio Medici" should be similarly honoured. The General Committee announce that a most suitable position for the statue has been suggested in the Haymarket, Norwich, near the site of the house in which Sir Thomas Browne resided for so many years, and the church of St. Peter Mancroft in which he was buried. Norwich is obviously the most appropriate place for the proposed statue and the first appeal for funds was made to the inhabitants of Norwich and its neighbourhood, but it is the proper desire of the committee that the memorial should not be merely a local one. Sir Thomas Browne made Norwich his home, but he was not, strictly speaking, a native of the quaint and lovely old eastern capital, for he was born in London and was educated at Winchester. His reputation, however, is world-wide, not local, and as admirers of his writings are found wherever English is spoken contributions towards his statue should flow from all sources. The cost of such a statue as is proposed would vary from £800 to £1200, according to its nature, and contributions will be received by the acting honorary secretary, Mr. F. R. Eaton, King-street House, Upper King-street, Norwich, or at the Bank of Barclay and Co., Limited, Norwich.

SARCOMA OF THE TESTICLE.

THE *American Journal of the Medical Sciences* for May contains a useful paper on this subject by Dr. G. M. Kober based upon six cases which he had observed and upon all the cases which he could find in German and English literature reported in the last 18 years, making 114 cases in all. Injuries such as blows, contusions, and squeezes have been regarded as exciting causes; in 32 cases there was a distinct history of traumatism. In 18 cases the disease developed in a retained testicle or when the descent had been delayed; in one the retained testicle had been pressed on by a truss; in two there was a syphilitic history; in one there was a history of metastatic orchitis from mumps. As to age, 9·3 per cent. of the cases occurred before the age of 10 years, none between 10 and 15 years, 5·6 per cent. between 16 and 20 years, 71 per cent. between 20 and 50 years, and 14 per cent. after 50 years. Of 93 cases in which the seat of disease was stated the right testicle was affected in 47, the left in 41, and both testicles in five. Sarcoma, like carcinoma of the testicle, usually develops rather rapidly, but in a few cases very slowly. Out of 99 cases, the tumour was of congenital origin in five, from a few weeks to six months' duration in 28, from seven to 11 months in 14, from one to two years in 24, from two to five years in 18, of six years' duration in two, of 15 years' in two, of 16 years' in one, of 20 years' in three, of 23 years' in one, and of 26 years' in one. In most cases the patient observed a gradual but painless enlargement of the testicle for an indefinite time followed by a period of a few weeks in which the tumour grew very rapidly with dull aching, sometimes lancinating, pain. The tumour retains the shape of a normal testicle and is therefore often mistaken for orchitis. It is only when the tunica albuginea is perforated that bosses appear. The tumour is usually firm at first; later it is soft and elastic, and even fluctuating. A remarkable feature is that not infrequently there is apparent quiescence and in some instances actual diminution of the tumour (from absorption of fluid). Secondary deposits in the cord are not frequent, but implication of the lumbar and iliac glands is common.

[1] The Elements of Materia Medica and Therapeutics, by Jonathan Pereira, M.D., F.R.S. and L.S., London, 1849.

The diagnosis between sarcoma and orchitis is by no means easy; in both there may be history of injury, and as a matter of fact many sarcomata develop after orchitis. In all doubtful cases an exploratory incision should be made. The prognosis is grave, especially in children and in rapidly growing tumours. Of 113 cases operated upon there was no history of the ultimate result in 37, 23 patients died within five months from metastasis in different organs, 11 lived for periods ranging from seven to 12 months, five for periods of from 16 to 24 months, and two for three years, dying from secondary growths. Of the 35 remaining cases 18 patients were alive at periods of from one to 12 months after the operation, two 13 months after operation, four from 21 months to three years, two four years, three six years, one eight years, one nine years, two 10 years, and one 15 years. Extirpation should be at once performed without regard to the malignancy of the tumour, since Adler has reported a case to the Berlin Medical Society[1] in a man, aged 24 years, whom he castrated on May 11th, 1892. The tumour proved to be a cystadenoma. The patient died in September, 1893, from metastasis in the lungs of the same character and not a trace of carcinoma or sarcoma could be detected.

SKIAGRAPHY AND STEREOSCOPY.

MR. MACKENZIE DAVIDSON gave an interesting demonstration on May 15th, at the Camera Club, of some new departures in x-ray work and their application to stereoscopic vision. Two skiagrams are taken from slightly different points of view and these are combined as a stereoscopic picture by being reflected to the eye by two mirrors placed at right angles, each being at an angle of 45 degrees to the plane of the skiagram. By placing the eyes close to the line of junction of the two mirrors a stereoscopic picture is seen. Mr. Davidson also explained his method of localising foreign bodies and stated that 100 cases of foreign bodies in the eye had now been localised in this way. This method consists in taking a known point and measuring the three coördinates of this point from three planes at right angles to each other. The three coördinates of the foreign body are then measured by the method of the crossed threads—also Mr. Davidson's idea. Having got these data we can by subtraction decide how far to right or left of the known point the foreign body lies, also the vertical distance and the depth in the eyeball parallel to the visceral axis. The "known point" consists of a piece of lead wire fixed by plaster to the patient's lower eyelid. For the purpose of measurement two lines at right angles are made on the plate by placing two wires over the sensitive plate.

"DEATH FROM TIGHT BOOTS."

SENSATIONAL versions of medical cases are only too frequent in the newspapers and it is perhaps in this department of journalism that the descriptive paragraph-writer appears to least advantage. A death from tetanus in the Manchester Royal Infirmary has recently been made the basis of an article ascribing the fatal issue to the wearing of tight boots, a species of picturesque exaggeration which recommends itself to a certain class of readers, and was, no doubt, by the author of this literary effort considered to be a happy inspiration. Tight boots are productive of much discomfort, immediate and remote, but they do not cause death; they have even been described by a humorist as a blessing, "because they make a man forget all his other miseries." Anyhow they will continue to be worn so long as it is fashionable to admire a small foot. Information kindly supplied by the resident surgical officer of the Manchester Royal Infirmary shows that the only unusual features of a fatal case of tetanus were the trivial nature of the original lesion and the unfortunate coincidence of the attack with a surgical operation undertaken for another purpose. The patient was a man, aged 26 years, who wished to enter the police force and was admitted to the infirmary to undergo operation for the radical cure of a varicocele. Although very tall and rather delicate-looking he seemed in every other respect to be perfectly healthy. The plexus was excised and the wound was sealed with celloidin. On the sixth day after the operation the patient complained of pain in the neck and jaws. The wound was examined and it was found to have soundly healed without suppuration. On thorough overhauling a small, barely-healed sore was discovered on the right great toe, and on closely questioning the patient he admitted that 14 days previously this had been caused by the rubbing of his boot during a long walk. The treatment consisted in large doses of chloral and injections of antitetanic serum, but the temperature (which had been normal since the operation) rose, the convulsions became more severe, and the patient died 24 hours after the first declaration of symptoms. Bacteriological examination of the operation wound and of the sore on the toe gave a negative result.

[1] Transactions, vol. xxv., pp. 164-66.

THE SALE OF FOOD AND DRUGS BILL.

COMMENDABLE progress has been made with this Bill by the Standing Committee on Trade, and the Bill is down for consideration in the House of Commons on June 1st, but it is doubtful whether it will obtain a hearing then on account of some important political measures which are down as orders on the paper for the same day. The amendments in the new Bill deal chiefly with invoices as warranties, the sufficiency of the analyst's certificate as evidence, the correct labelling of mixtures, and increased penalties for offences. There is no indication, however, of the appointment of a Court of Reference, but we understand that Sir Charles Cameron intends to move the adoption of some such clause. Again, the question of preservatives has yet to be decided by a Departmental Committee, so that it is doubtful whether the Bill will be ready for consideration on the date proposed.

THE LATE CAMPAIGNS IN THE SOUDAN AND ON THE NORTH-WESTERN FRONTIER.

THE historical events connected with Khartoum and General Gordon naturally gave the late campaign prominence in the public eye; the clear and comprehensible policy of the expedition and the important political considerations involved in its successful issue, as well as the almost scientific precision with which it was carried out, afford also a sufficient explanation of the absorbing interest which it created. Public attention can only occupy itself with one subject at a time and it was altogether diverted from the campaign on the North-Western frontier of India to the events which were taking place in the Soudan. As regards the size and nature of the undertaking, however, and the difficulties which had to be overcome the two expeditions are not to be compared with one another. Opinion was, and still is, much divided as to the political necessity or wisdom of the Indian campaign for one thing and, for another, it was much farther off from this country and its nature did not admit of any large, brilliant, or conclusive engagements being fought, but the military historian of the future will not fail to recognise that Sir William Lockhart and his troops accomplished an enormously difficult undertaking such as probably no other power in the world could have successfully carried out. A supplementary gazette has recently been published which includes the names of many officers who had been omitted from the list of honours previously

conferred for the North-Western Frontier Campaign. It will be remembered that a very large and comprehensive medical and hospital service had to be organised for that expedition, that the medical officers had very laborious and trying work, and that the results accomplished were eminently satisfactory. It was very natural, therefore, for the members of both the medical services in India to have expected that their labours would have been fully recognised, but we cannot say that such has been the case and a very general feeling prevails that the medical officers of the expedition have not received that amount of recognition to which they were justly entitled. The vast amount of responsibility and labour which must have devolved upon the Surgeon-General of Her Majesty's forces and upon the Principal Medical Officer of India, for example, does not seem to have been recognised or taken into account in the distribution of rewards and honours.

PHTHISIS ON SHIPBOARD.

TRAVELLERS are indebted to a gentleman who recently made the voyage from South Africa to England for a timely and important suggestion which appeared in the pages of a contemporary. Shortly after leaving the Cape he discovered that his fellow passenger in the same cabin was advanced in phthisis. Naturally and very properly he suggested that he might be provided with a berth elsewhere, but was informed that the existing arrangement could not be altered. He was consequently obliged to sleep in the saloon. He afterwards found that two other passengers were also phthisical. Under the circumstances it is not surprising that he makes some very pertinent observations respecting the duty of shipping companies with regard to isolation and disinfection in similar cases. There cannot indeed be any question as to the danger to others which these entail. It is true that phthisis is not infectious after the same manner or in the same degree as the exanthemata. It would be unreasonable, even cruel, to refuse a sufferer from this disease that opportunity of transit over sea which perhaps affords him his only chance of recovery. But, on the other hand, we now know that the spread of tuberculous disease is largely attributable to the inhalation of particles of dried sputum distributed in the atmosphere, and it is easily conceivable that phthisical persons are not always careful about the disposal of their expectoration. Such being the existing conditions a measure of sanitary precaution is no more than necessary, and it ought, if it is to be effectual, to include the medical examination of intending passengers by the ship's surgeon, the separate accommodation of any who are phthisical, the regular use and disinfection of special spittoons, the disinfection of handkerchiefs and soiled bed-linen, and a final sanitary cleansing of the cabins occupied during the voyage when it is over. A certain amount of method and some personal exertion would be needed to carry out these arrangements, but there should be little or no monetary loss to the shipping companies, while there would certainly result a gain in security and an increase of confidence on the part of the travelling public.

THE Cavendish Lecture of the West London Medico-Chirurgical Society will be delivered before the society on Friday, June 16th, at 8.30 P.M., in the Town Hall, Hammersmith, W., by Dr. William Osler, F.R.C.P. Lond., F.R.S., Professor of Medicine in Baltimore, who has taken as his subject "Cerebro-spinal Fever."

THE Committee of the Brompton Hospital for Consumption and Diseases of the Chest have received a donation of £2500 from Sir Theodore Martin, K.C.B., in order to dedicate a ward in memory of Lady Martin, better known to the world as Helen Faucit.

THE formal opening of the International Congress for the Prevention and Cure of Tuberculosis took place in Berlin on Wednesday, May 24th. The proceedings were inaugurated at the Reichstag in the presence of the Empress of Germany.

A CRITICISM ON THE DECISION IN HUNTER v. CLARE.

BY JAMES WILSON, BARRISTER-AT-LAW.

[THE great importance of the issues raised in the case of Hunter v. Clare will make the following legal criticism on the recent decision of the Divisional Court interesting to our readers. It will be seen that Mr. James Wilson does not wholly commend the interpretation of the law as laid down by Mr. Justice Lawrance and Mr. Justice Channell. There is no doubt that the matter bristles with difficulty, but we hope that our readers will consider the case strictly on its merits and will not allow any prejudice either for or against the Society of Apothecaries to influence their opinion either of the action of the General Medical Council or of the justice of the decision of the Divisional Court.]

The recent decision of a Divisional Court (Lawrance and Channell, JJ.) in the case of Hunter v. Clare cannot, it is submitted, be accepted as a final determination of the law in respect to the use of medical titles by duly registered practitioners under the Medical Act of 1886. The court was asked in this case to decide whether a Licentiate of the Society of Apothecaries of London, being duly registered on the Medical Register as such in accordance with the provisions of the Medical Act of 1886, could be convicted under Section 40 of the Medical Act of 1858 for styling himself a "physician."

The point being raised for the first time in respect to a Licentiate of the Apothecaries' Society registered under the 1886 Act there was no direct authority bearing on the question to guide the court. In the absence of authority judges not infrequently find safety in a narrow interpretation of the law and so it seems to have happened here. It is an elementary rule of construction that words and phrases in a statute are to be taken as used in their technical meaning if they have acquired one and in their popular meaning if they have not, with this qualification, however, that technical words in statutes dealing with matters relating to the general public are to be construed *uti loquitur vulgus*—that is, according to the common understanding and acceptation of the terms. Mr. Justice Channell narrowed down the question which the court had to decide to one of determining whether the word "physician" was used in a technical sense or in a popular sense in Section 40 of the Medical Act of 1858. "If physician there means," said the learned judge, "simply a person who is duly qualified in law to practise in physic then it seems to me this appellant is a physician within that meaning of the word, because although it was not so at one time he is now by being a Licentiate of the Society of Apothecaries entitled to practise medicine and surgery, and if the word 'physician' in Section 40 is used in a popular sense I think one would be bound to say that he is entitled to practise in physic in a popular sense at any rate. Even if there be in any sense a distinction between 'physic' and 'medicine' I do not think there is any such distinction in the popular sense. Consequently, if 'physician' in Section 40 means—I do not say 'medical practitioner' as that expression, too, has a sort of technical sense—a person who is legally entitled to act as doctor, using the word 'doctor' in the popular sense and not in the technical sense of doctor of medicine, then I think the appellant by the qualification he has got would be entitled to call himself a physician. Prior to the passing of this Act of 1858 'physician' was commonly used as applying to what was the highest grade of medical practitioners and having regard to that fact I think it was so used in this Act and if we look through the Act we find confirmation of that view. There is some confirmation of it in the fact that most of the words used

such as 'physician,' 'doctor,' 'licentiate of medicine,' and so on, have application to the specific bodies that are entitled to give qualifications. It seems to me that the word 'physician' in that Act had got somewhat of a technical sense and that it in point of fact was a word used as importing a particular grade of medical practitioner. In that special sense I do not think it is correct to say that a Licentiate of the Society of Apothecaries is in fact a physician." The learned judge was careful to add that he arrived at this conclusion "not altogether without doubt." There seems ample justification for this doubt. The title "physician" is one of shifting connotation varying with times and places. At the date of the Act it had one connotation in England, another in Scotland, and another in Ireland. It is not conformable to reason nor can it be supposed to have been the intention of the legislature that in an Act which was to apply to the whole of the United Kingdom the word physician in the Penal Section (the 40th) was used in the sense which law and usage recognised as applicable to the area under the supervision of the Royal College of Physicians of London.[1]

It is well known that this College in Henry VIII.'s reign got the whole domain of medicine under its control, obtaining the sanction of an Act of Parliament (32 Hen. VIII. c. 40) for the doctrine that the "science of physic doth comprehend, include, and contain the knowledge of surgery as a special member and part of the same." Even as late as 1861 the College maintained against the Society of Apothecaries the right which it had not seen fit to exercise previously to create Licentiates who could compound and supply drugs for gain to their patients—in short, to act as apothecaries. (Attorney-General *v.* Royal College of Physicians, 1 J. and H. 561.)

Thus in the evolution of the medical profession what the physician claimed by virtue of Henry VIII.'s legislation the apothecary, starting at the bottom of the medical ladder as a humble drug seller, is now entitled to claim by the statute of 1886. So that even if "physician" be used in Section 40 of the Act of 1858 to denote the highest grade of medical practitioner it is submitted that the legislature, by making it a condition precedent to registration that all licensees, whether they come from a College of Physicians, Surgeons, Apothecaries, or other licensing body, shall possess such knowledge and skill in medicine, surgery, and midwifery as to guarantee the efficient practice of these three essential branches of their profession, has virtually made obsolete for persons registering after 1886 the grading of physician, surgeon, and apothecary, as understood before that Act. Therefore, it would seem that the court should have approached the consideration of the question which it was asked to decide from a different point of view to that taken—viz., was the conduct of the appellant, Mr. Hunter, in styling himself a physician within the mischief prohibited by Section 40 of the Act of 1858. A short consideration of the general scope of the Act to which its preamble is the key enables one to answer with reasonable certainty that it was not. The simple recital in the preamble is: "Whereas it is expedient that persons requiring medical aid should be enabled to distinguish qualified from unqualified practitioners." Thus the Act would appear to have been passed rather in the interests of the public than with a view of protecting the separate interests of the medical profession. The legislature seems to have assumed that if a statutory distinction were drawn between registered and unregistered practitioners the public might be trusted to protect itself against unqualified practitioners. To this end the Medical Register, the pivot of the Act, was established and provision made for its efficiency. Sections 32, 33, 34, 35, and 37 confer privileges and immunities on registered practitioners; Section 36 disqualifies unregistered persons from holding certain public appointments; and the 40th Section is intended to make registration effective for its purpose by imposing a penalty on all such persons as falsely and wilfully hold themselves out to the public as registered under the Act or who assume such titles or descriptions as would imply that they were so registered.

The decided cases it is true show that if a person registered in respect to one qualification describes himself as if he was registered or entitled to be registered under another qualification he becomes liable to the penalty. In these cases, however, the judges based their decisions on the ground that such persons deceived the public and thus frustrated the policy of the Act—e.g., Baron Bramwell in delivering judgment in Ellis *v.* Kelly said that Section 40 of the Act of 1858 "is intended to protect the public from being imposed upon by persons untruly representing themselves to be legally qualified medical men. It appears to me that if any person wilfully and falsely called himself 'M.D.' he would be liable to a penalty, though he was in reality a Member of the College of Surgeons or of the Apothecaries' Company and was so registered." (3 L.T. Rep., N.S., 331.) Again in the more recent case of Regina *v.* Baker (17 Cox, 575), the late Lord Chief Justice Coleridge approved and adopted the language of Baron Bramwell above quoted, and added: "It is obvious that there are different qualifications and examinations for the different heads of medical practice, and that those to which a doctor of medicine must be subject and upon which he must enter are quite different from those of an apothecary and that calling yourself a physician because you are an apothecary is a fraud upon the public and the very thing this Act of Parliament was intended to prevent. It was intended by the legislature that persons who employ a medical practitioner should know what sort of examinations he has passed and under which of the various heads of medical practice he is to be classed."

This language in the altered circumstances of registration under the 1886 Act would be wholly inapplicable to Mr. Hunter's case. That Act (Section 2) made it obligatory that all candidates for registration should pass a qualifying examination in medicine, surgery, and midwifery and in Section 3 it is laid down that "the standard of proficiency required from candidates at the said qualifying examination shall be such as sufficiently to guarantee the possession of the knowledge and skill requisite for the efficient practice of medicine, surgery, and midwifery and it shall be the duty of the General Council to secure the maintenance of such standard of proficiency as aforesaid" by the methods provided in the Act, methods which imply that all candidates, whether graduates in medicine from the universities or licentiates from the various licensing bodies, are to be treated *qua* registration on a footing of equality. It was the intention of the framers of the Act to remedy the evils resulting from single qualifications and a multiplicity of examinations of widely unequal value. Those evils were thus described by Sir Lyon Playfair in moving the second reading of the Bill. "Through any of these 19 [licensing] bodies a medical man could come upon the Register and might practise and he might receive 50 or 60 titles and licences to practise from these bodies and the bewildered public had no idea of what was the value of these—whether they signified a sufficient qualification, which were good and which were bad. A man might pass a College of Surgeons and go down into the country and attend medical cases such as measles or scarlet fever without ever having passed a medical examination, or he might take a licence by a College of Physicians and cut a man's leg off without having passed an examination in surgery and both might go down to the country and without knowing anything about it might practise in a thickly populated district midwifery." (Hansard, vol. cccv., p. 236.) The Parliamentary history of an Act does not control its interpretation or determine how far it operates to modify the meaning of terms used in the Act it was passed to amend, for the legislature may not have employed apt words to carry its intentions into effect. In the decision of this particular case, however, the court, it is contended, did not at all adequately consider the bearing of the important changes made in respect to registration by the Act of 1886.

It is not, of course, the province of a court to make the law which it administers reasonable, logical, and effective for its purpose, but rather to expound it as it stands, and although it may seem absurd to hold that a man who is fully qualified by law to practise as a physician may not tell the public that he is a "physician," when the professed object of the principal Medical Act is to inform the public who are and who are not qualified practitioners, yet if it should turn out when Hunter *v.* Clare comes up for review that the case has been rightly decided the remedy must be sought in fresh legislation.

[1] In Mill's Logic the word physician is given as one which had incorporated into its meaning circumstances accidentally connected with it at some particular period. "Physician (φυσικός or naturalist) became in England synonymous with a healer of diseases because until a comparatively late period medical practitioners were the only naturalists."

THE MEDICAL, SURGICAL, AND HYGIENIC EXHIBITION.

THE interest in this exhibition, which is now held annually, continues, and those responsible for its organisation must have been very well satisfied with the attendance of visitors during the current week in the Queen's Hall. The exhibition was opened on May 23rd and closes to-day (Friday). A great number of medical men, hospital nurses, and others closely associated with medical work have taken the opportunity of inspecting the various objects presented to view. The opportunity thus afforded of becoming acquainted with novelties in drugs, foods, and sanitary and surgical appliances is, it is evident, now welcomed by many of the metropolitan members of the profession. It cannot be said that the display is carried out on a large scale and for this reason the visitor is not bewildered by a multiplicity of exhibits. In the space of an hour or so he can accomplish a tour of inspection and in this time gather some probably useful information. Several of the novelties demonstrated were quite of a scientific character and on the whole it may be said that the commercial aspect was not prominently in evidence. As before we may classify the exhibits under the following heads: drugs, foods and food products, surgical appliances, sanitary appliances, mineral and medicinal waters and beverages, and miscellaneous objects.

In point of number the exhibits coming under the head of drugs ran pretty closely to those coming under the head of foods. The stall of Messrs. Cooper and Co., of 80, Gloucester-road, South Kensington, was very tastefully arranged and included some novelties well worthy of notice. The soluble wafer capsules, for example, known as "cachoids" offer distinct advantages for the administration of nauseous and insoluble powders. They are not difficult to swallow while they easily disintegrate, so that the drug contained in them is effectually administered. The preparation "Liquor quininæ salicylatis" also deserves remark chiefly because it is a combination of naturally obtained salicylic acid with quinine. This exhibit included the oxycarbonated mineral waters which are a special feature amongst the products of this firm. Every possible precaution is taken to avoid metallic contamination and the gases are obtained from the purest possible source. The addition of oxygen to a carbonated water is of some importance since the taste of the water is improved; it is more palatable, "round," and less "sharp" than when carbonic acid alone is used. The steps taken to ensure a pure aerated water are admirable and worthy of the greatest praise. Mr. Martindale's (10, New Cavendish-street) stall presented an attractive selection of new pharmaceutical preparations in addition to some medical appliances and examples of convenient means of administration. The granular effervescent preparations, the medicated chocolate tablets, and the urethral bougies with gelatine and containing antiseptics may be singled out as representative. The capsules prepared with a readily soluble "mass" which will not become hard or shrink on keeping also deserve attention as a useful method of administering certain drugs.

We have already referred in our columns to the standard fluid extracts prepared by Messrs. Parke, Davis, and Co., of 21, North Audley-street, W. So far as possible these preparations are standardised so as to contain a known and definite amount of the active principles concerned, while those preparations which cannot be standardised by ordinary methods are tested physiologically. This system deserves praise and will be approved by the profession. Amongst the other preparations exhibited by this firm were "Takadiastase," the powerful starch-digesting ferment, serums and toxins, the agreeable and effective "Euthymol" toilet preparations, and lastly a recent addition in the shape of chocolate-coated tablets which we have quite lately noticed in our analytical columns. There were several things of interest to be seen at the well-arranged stall of Messrs. Oppenheimer, Son, and Co., Limited, of 179, Queen Victoria-street, E.C. Perhaps the application of the palatinoid to the enclosure of animal substances calls most for remark. In the palatinoid these extracts are hermetically sealed. The palatinoid is successfully used also for containing liquids and even the volatile fluids ether and chloroform. Another valuable application of the palatinoid is for administering beech wood creosote. The exhibit included some other preparations as well as appliances which are well to the front in meeting modern requirements. The exhibit of Messrs. Scott and Bowne of 95, 96, 97, and 98, Great Saffron-hill, consisted largely of the individual and pure constituents of their well-known emulsion. We have already issued a laboratory report upon this excellent preparation in which it was shown that it fulfilled all the requirements of a uniform emulsion whilst containing in an acceptable ratio those substances which are valuable in wasting diseases and in debilitated conditions. "Eugol" preparations were the feature of the exhibit by Messrs. Bayard, Sons, and Bayard, Limited, of 7, Golden-square. Eugol is an ingenious combination of well-known non-poisonous antiseptic and germicidal agents. Further, eugol is non-irritating and may be used with advantage for ordinary antiseptic purposes and as a dentrifice. It can be had also combined with a lubricant for medical and surgical use. Kutnow's powder is an agreeable aperient, its action depending upon the presence of the same salts as occur in the celebrated Carlsbad spring. It is a finely divided and desiccated powder in which the ordinary nauseous taste of the natural sulphates is masked. This company (41, Farringdon-road, E.C.) also decorated their stall with anti-asthmatic powder and cigarettes, which are said to contain neither lobelia nor datura tatula, whilst the smoke proceeding from their combustion is stated to exercise a sedative and soothing action on the respiratory passages. "Sanochinol" (Messrs. Voigt, Barton, and Co. of 25, Great Tower-street, E.C.) is the name of a product of quinine obtained by treating quinine with nascent oxygen. It is said to be a new remedy for tropical fevers, such as malaria, yellow fever, and black-water fever. On the same stall samples of Wiesbaden Gout Water were on view. Messrs. Arthur and Co. of 69, Berners-street, W., have simplified the name of their gold preparations to "Bromaurum" and "Hydraurum" respectively. The former is the oxybromide of arsenic with tribromide of gold, and the latter the oxybromide of mercury in association with the same gold compound. The exhibit included some other skilfully prepared compounds as well as an antiseptic handkerchief for the use of phthisical patients. The handkerchief can be burnt after use and it costs less, it is said, than ordinary handkerchiefs. The Maltine Manufacturing Company of 24, and 25, Hart-street, Bloomsbury, exhibited their well-known compounds of medicaments with Maltine. This liquid active malt extract affords an excellent vehicle for the administration of chemical food, hypophosphites, cod-liver oil, digestive ferments, and the principles of coca leaves. In addition to these the dietetic products of Carnrick and Co. were shown at the same stall. At the exhibit of Leopold Hoff of 29, New Bridge-street, E.C., the well-known and original malt extract was shown. It is a pleasant and palatable liquor, agreeably effervescing, and possessing undoubtedly nourishing qualities.

The most striking exhibits coming under the head of foods were those relating to milk production. As is well known great advances have been made in recent years towards raising the production of milk to a really scientific position and in compliance with strict sanitary demands. Milk of varying composition to suit all requirements may be had now for the asking while the precautions taken to exclude the possibility of contamination with disease in the case of the large dairy companies are admirable. It is on these lines, for example, that the dairy farms of Messrs. Welford and Sons of Elgin-avenue, Maida Vale, are conducted, as was illustrated in the interesting samples at their exhibit. Here were shown humanised milk, facsimile milk, modified humanised milk, peptonised milk, and so on. Asses' milk may now be had also in sealed glass bottles. Milk, indeed, is supplied by this firm containing constituents in accordance with any prescription which the medical man may be pleased to order. Again, no one has contributed more extensively to our knowledge of the composition of milk than Mr. H. Droop Richmond, the resident analyst of the Aylesbury Dairy Co., Limited, of St. Petersburg-place, Bayswater, W. Amongst the specialities of this firm in addition to humanised and sterilised milk may be mentioned whey for anæmic patients, the cream milk and modified milk for infants, and, lastly, "Koumiss" which is supplied in three forms for the benefit of patients suffering from digestive disorder and malnutrition. Yet another example of the scale on which the sterilisation of milk is carried out

might be seen at the exhibit of the Excel British and Colonial Milk Sterilising Co., Limited, 28, Victoria-street, S.W. Here were shown sterilised milk in bottles and tins and sterilised cream. Milk preserved in concentrated form with and without sugar could not be better exemplified than in the preparations of Henri Nestlé, of 48, Cannon-street, E.C. These preparations are to be commended, since the greatest care is taken to retain the maximum proportion of milk fat. The exhibit included the infant food made by this firm which is prepared in accordance with the requirements indicated. We have dealt at some length in our columns with the process of obtaining humanised milk known as Dr. Gaertner's. The product was shown at the stall of the Friern Manor Dairy Farm, Limited, of 20, Farringdon-street, E.C. It is cows' milk so modified as to present the composition of human milk and every precaution is taken to ensure uniformity, soundness, and healthiness of the milk so prepared. The Anglo-Swiss Milk Company, of 10, Mark-lane, E.C., exhibited their well-known brand of condensed milk and in addition some useful combinations of cocoa, chocolate, and coffee with milk. This brand of condensed milk may be relied upon for a maximum of cream. The embodiment of milk proteids is well represented in the white powder known as "Protene." This substance is in reality dried milk with the fat and sugar eliminated. We have already given in our analytical columns a complete analysis of this product of the Protene Co., Limited, 36, Welbeck-street, Cavendish-square. Protene contains an excessively rich proportion of the essential constituent of all food—namely, proteid. We will next pass to meat preparations. The invalid food specialities shown by Mr. V. Benoist of 36, Piccadilly, call for special remark, since in most cases the preparations are preserved in glass and are therefore placed beyond the possibility of metallic contamination whilst being satisfactorily preserved against fermentation or other objectionable changes. Clear turtle soup is thus prepared specially clarified so that any irritating or digestible constituents are removed. The exhibit also included consommé de volaille, calf's foot jelly, &c. The exhibit of the Bovril Company of 30, Farringdon-street, E.C., contained a great variety of specialities, including soup powder, bovril, meat extract, meat juice, invalid bovril, beef jelly, and stamnoids. As is well known "Bovril" contains not only the stimulating extractives of beef but the nutritious constituents also. "Peptarnis" is a powerful nutrient which is prepared by the Liebig Extract of Meat Company of 9, Fenchurch-avenue, E.C. It is concentrated peptone of beef containing everything necessary to sustain life. The exhibit, of course, included the ordinary extract of beef made on the plan first proposed by the celebrated Liebig. An agreeable departure from ordinary beef preparations is "Hipi," a pure mutton essence made by Messrs. G. Nelson Dale and Co of 14, Dowgate-hill, E.C. It yields soup of excellent flavour which is nourishing as well as stimulating. The exhibit of Messrs. Brand and Co., Ltd., of Mayfair, W., presented a remarkably wide range of invalid foods and delicacies. Foremost among these should be mentioned the essences of beef, mutton, veal and chicken, and the concentrated specimens of beef tea, mutton broth, veal broth, and chicken broth. As opposed to animal food preparations may be mentioned the meritorious preparations of Fromm's Extract Co., Limited, of 5, White-street. Moorfields, E.C. Preparations are thus made similar in palatability to animal foods and being of a purely vegetable origin it is probable that these foods would be of benefit to persons of gouty tendency. For some purposes "Albene," a highly refined vegetable fat prepared by Messrs. Broomfield and Co. of 83, Upper Thames-street, E.C., may be advantageously substituted for butter. It is especially suitable for making pastry and does not turn rancid. Messrs. G. Van Abbott and Sons of 104, Wigmore-street, Cavendish-square, exhibited a typical display of their foods prepared expressly for diabetics, dyspeptics, and invalids, while a similar subject was illustrated in the exhibit of Messrs. Callard and Co. of 65, Regent-street, W., the latter including food for the diabetic, for reducing weight, for the rheumatic and gouty, and for indigestion. Messrs. Cox, Limited, of Eastcheap-buildings, E.C., showed some excellent specimens of "sparkling" gelatin which, as we have shown in our analytical columns is highly refined and pure and is thus adapted as an excellent vehicle for administering wine or beef-tea. The statement that Cadbury's cocoa is an absolutely pure article cannot be controverted in view of the results of analysis which in our own hands this excellent article of food has yielded. It was the only cocoa shown at the exhibition. Hovis bread, which has also been the subject of analysis in our laboratory, was also offered for inspection and trial. As is well known, the basis of the bread as well as the biscuit and flour is ground wheat containing the highly nourishing "germ." Amongst digestive products none could be more typical or satisfactory than those prepared by Messrs Fairchild Brothers and Foster, of Snow Hill-buildings, E.C. The exhibit included some excellent preparations of "Pepsin" and "Trypsin," besides peptonising powders and liquids, and a preparation for the extemporisation of humanised milk. Messrs. Irving, Son, and Jones of Liverpool and 88, Charing-cross-road exhibited their "Manhu" diabetic foods. It is claimed that the carbohydrates are so modified in these preparations as to form a beneficial rather than an injurious aliment to the diabetic. As long as carbohydrates are admitted to be present this claim, it seems to us, must be opposed to physiological facts.

The exhibit which attracted most attention perhaps in that department of the exhibition which included surgical and hospital appliances was the apparatus illustrating radiant heat treatment by the Dowsing Radiant Heat Company, Limited, of 24, Budge-row, Cannon-street, E.C. The electric heaters are made on the principle of the electric incandescent lamp, so that they are luminous radiators and their heat has been described as "warm sunshine." They may be adapted to an ordinary fireplace for domestic purposes or applied most conveniently for the local hot-air treatment of rheumatism, gout, and allied painful affections. Close by was shown the application of the electric current to the ventilation of buildings by means of the Blackman motor fan of the Blackman Ventilating Co., Ltd., 63, Fore-street, E.C. Messrs. Watson and Sons of 313, High Holborn, W.C., showed a big x-ray tube actuated by a large Wimshurst machine designed by Dr. Lewis Jones. A powerful induction coil was also shown in working order by Mr. H. W. Cox of 11 and 28, Cursitor-street, Chancery-lane. The admirable workmanship of these coils is well known, the winding and insulation of each being personally supervised. Some excellent x-ray photographs were on the stall. Several applications of the "Instra" warmer were shown by Messrs. D. Blair and Co., of 47, Cannon-street, E.C. Thus this handy little appliance can be used for the purpose of a pocket, chest or foot warmer and even for bicycle handles and anklet straps. The following surgical instrument makers occupied stalls and a good deal of attention seemed to be paid to the new surgical instruments presented for inspection. Messrs. Mayer and Meltzer, of 71, Great Portland-street, W.; Messrs. John Weiss and Son of 287, Oxford-street; Messrs. Evans and Wormull of 31, Stamford-street, S.E.; Mr. W. K. Stacy, 4, Newgate-street, E.C.; Messrs. Southall Brothers and Barclay, Ltd., of Birmingham (including their well-known sanitary specialities); Messrs. Maw, Son and Thompson, 7 to 12, Aldersgate-street, E.C.; Messrs. Down Brothers of 21, St. Thomas's-street, S.E.; the Dental Therapeutic Co. of 57, Weymouth-street, Portland-place, W. (dental instruments and accessories). Besides these there were many exhibitors of anatomical appliances, as, for instance, the Domen Belts Co. of 456, Strand, W.C., who showed their abdominal belts and belt corsets; the Merrilees Corset and Belt Manufacturing Co. of 7, Poultry, E.C., exhibiting similar appliance; Messrs. Anderson, Anderson, and Anderson, Limited, of 37, Queen Victoria-street, E.C., who exhibited their germ-proof clothing and water beds; Mr. Thomas Holland, of 40, South Audley-street, Grosvenor-square, W., who offered for inspection his improved "instep arch sock" for flat-foot; the Sanitary Wood Wool Co., of 26, Thavies-inn, Holborn-circus, who showed their absorbent antiseptic dressings, &c., the basis of which is wood wool; the O'Connor Extension Co., of 2, Bloomsbury-street, who showed their appliance for the lame which compensates for shortening of the leg and enables ordinary shoes to be worn. Messrs. J. F. Macfarlan and Co. of Edinburgh and 9 and 11, Moor-lane, E.C., who showed their Listerian surgical dressings, catgut ligatures, and silk sutures, besides the anæsthetics well known in connexion with this firm; and Messrs. Wodderspoon and Co. of 7, Serle-street, Lincoln's Inn, who showed temperature charts.

Sanitary preparations and appliances were much in evidence. The exhibit of Messrs. A. Boake, Roberts and

Co., of Stratford, was interesting in showing what has been done by the application of sulphur dioxide in small-pox epidemics, bubonic plague, and cholera. The gas is supplied liquefied in sealed tins or on a larger scale in copper cylinders. Besides sulphurous acid a fluid preparation of phenol was shown, known as "Lozar," wood fibre being used to absorb lozar in affording a disinfectant powder. The Amiral Soap Co. of 3, Throgmorton-avenue, E.C., exhibited specimens of their soap. We have already dealt with this soap in our analytical columns. The exhibit of the Sanitas Co. of Three Colts Lane, Bethnal-green, E., comprised a very great number of sanitary preparations, the basis of which is the agreeable and efficient "Sanitas." Pasteur filters and the Equifex disinfecting apparatus were illustrated in the exhibit of Messrs. J. Defries and Sons, Limited, of 147, Houndsditch. Messrs. Newton Chambers and Co. of Sheffield and 331, Gray's-inn-road, W.C., exhibited numerous preparations of the non-poisonous disinfectant "Izal." The Wade Disinfectant Syndicate of 62, Nine-elms-lane, S.W., showed an ingenious automatic disinfector which flushes, deodorises, and disinfects automatically by one and the same operation. At the stall of the Berkefeld Filter Co., Limited, of 121, Oxford-street, W., the Berkefeld filter was shown in working condition. The advantages of this filter are that while it is rapid in action it yields water entirely free from germs—that is, sterile. The Jeyes Sanitary Compounds Co., Limited, of 64, Cannon-street, E.C., exhibited their disinfectants of the type which forms a milky fluid with water of which this company were, we believe, the pioneers. "Creolin," their specialty, was shown in several forms. In addition to the perfectly pure product inseparable from the name of Messrs. Price—namely, glycerine—and its combinations with malt and various drugs the Price's Patent Candle Co. (York-road, Battersea) exhibited several medicated soaps for surgical purposes. Besides these there were also sanitary soaps. The space on the stall of Fleming's Oil and Chemical Company of 101, Leadenhall-street, E.C., was occupied chiefly by their moth-preventive specialities, besides some disinfectants and tooth-powder and sanitary preparations for the bath. "Eucryl" fluid disinfectant is a preparation with which we have already dealt in our analytical columns. Together with carbolic acid and phenophorme this preparation was shown by Messrs. Major and Co., Limited, of Sculcoates, Hull.

The Kronthal Co. of 53, Berners-street had a very tastefully arranged stall near to the entrance. It was the largest display devoted to natural table waters and indeed the largest exhibit in the hall. Three kinds of Kronthal water were shown derived from three distinct springs. The first is a natural table water (blue label), the second a highly mineralised water said to be useful as a diuretic (red label), and the third contains iron (green label) in a permanent form and in the ferrous condition, so that it is probably of value in anæmia and chlorosis. These waters have already been examined in THE LANCET Laboratory, and we were able to report the high condition of purity of Kronthal water and of the presence of mineral constituents which make them wholesome for table and other purposes. Purgative mineral waters were exemplified in the exhibit of Messrs. Ingram and Royle of 26, Upper Thames-street. Carlsbad and Hunyadi Janos water serve as types. In addition to these the natural mineral waters of Vichy (in bottle) were shown, while Vichy salts and pastilles formed part of the exhibit. We have dealt quite recently in our analytical columns with the chemistry of Esvach water which contains the sulphates of sodium and magnesium but which apparently is not a natural mineral water although the active ingredients are in suitable proportion for aperient purposes. The specimens were shown by Messrs. Davy, Hill, Son, Yates, and Hicks of 64, Park-street, Southwark. "Sparklets" are now well known. By this system the aeration at home of any liquid is an easy possibility. We have commended the system especially as it is easily applicable to the extemporary preparation of aerated milk or other liquids for use by invalids. This ingenious method of aerating liquids is being developed by Aerators, Ltd., of 89, Broad-street-avenue. Under this section we may include, lastly, the lime juice cordial known as Stower's and exhibited by Messrs. Alexander Riddle and Co. of 36 and 38, Commercial-street, E. As we have shown in our analytical columns this lime juice is a perfectly pure preparation in which the characters of the fresh fruit in regard to aroma and fragrance are retained.

A feature of the exhibition was the occurrence here and there of book stalls on which were placed some recent additions to the literature of medicine, and several visitors found pleasure and profit in glancing through the books thus offered for inspection. Amongst those thus exhibiting were the following:—Rebman, Limited, of 129, Shaftesbury-avenue, Cambridge-circus, W.C. (these publishers announce specially that arrangements have been completed for the publication in English of "Lehmann's Medicinische Handatlanten"); Messrs. John Bale, Sons, and Danielsson, Limited, 83–89, Great Tichfield-street, Oxford-street, W.; and The Scientific Press, Limited, of 28 and 29, Southampton-street, Strand.

BACTERIOLOGY IN TRINIDAD.

WE have received a copy of the Trinidad *Mirror* which contains an account of Professor Crookshank's visit to the Colonial Hospital of Trinidad and the remarks made by him on that occasion. After saying that nothing had given him greater pleasure during his visit to the West Indies than an inspection of the Colonial Hospital, Professor Crookshank praised its administration and made several important criticisms and suggestions. We will quote these remarks *verbatim*:

> There is evidence on all sides of capable administration and of a thoroughly efficient and zealous medical and surgical staff. Every attention is given as far as possible to carrying out Listerian principles. The ventilation of the wards is admirable and the attention to general sanitation is satisfactory. Nevertheless there is room for improvement. I would draw attention to the proximity of the ward for special obstetrical operations to the room used for the sanitary service of the general wards. I would also urge the need for more complete classification of the patients and that admission should not be given to cases of leprosy and to other cases (which need not be specifically mentioned here) which are quite unsuitable for admission to the wards of a general hospital. Lastly I would point out the splendid opportunities which exist for the investigation of the cause and prevention of tropical diseases, a matter which is receiving at home the attention of the Colonial Secretary of State and of the general public. Such work is of the greatest possible importance to our colonies and indirectly to the mother country. Great efforts are being made in England to train medical men (for service in the colonies) in the modern treatment and prevention of tropical diseases. In England there are opportunities for studying imported cases of tropical diseases and a training can be given in bacteriological methods. Where, however, as in Trinidad, there is a large colonial hospital, that is obviously the best place in which the investigation of tropical diseases can be carried on. The appointment of a medical officer who has devoted his time, and is prepared to continue to give up his time, to preventive medicine and bacteriological research in Trinidad, is a question which it is hoped will receive the immediate attention of the Colonial Government and the unanimous support of an enlightened and progressive public.

The suggestions made with a view of promoting bacteriological research and better sanitation in Port of Spain were also brought to the notice of his Excellency the Governor of Trinidad in a memorandum on the subject submitted by Professor Crookshank. Referring to the material for investigation at the Colonial Hospital, Professor Crookshank pointed out how much still remained to be done in investigating the nature of malaria, and that in the case of yaws and many other tropical diseases there was an open field for research. Professor Crookshank then put the case very strongly in support of his suggestion for the appointment of a medical officer of health and the equipment of a small laboratory. "The general practitioner in the colony, if he is to keep up with modern practice, must be able to have doubtful cases of diphtheria, malaria, typhoid fever, &c., bacteriologically examined, and he must be able to apply the antitoxin treatment. The veterinary surgeon is fighting without the modern weapons of defence if he is unable to examine milk for tubercle bacilli, or to test horses for glanders by the use of mallein, or to test cows for tuberculosis by means of tuberculin. The absence of any facilities for scientific research at the hospital, the demands of the general medical practitioners and of the veterinary surgeons in the colony, point to the need for a bacteriological laboratory either at the hospital or as an extension of the existing government laboratory. The question of the appointment of a colonial bacteriologist is one to which I would earnestly draw the attention of your Excellency. I hope that before long the colonial government may see its way to combining the work of a medical officer of health for Port of Spain with the duties of colonial bacteriologist." After appealing for

sweeping reforms in the sanitation of Port of Spain, Professor Crookshank expressed the opinion that they could be effected by the appointment of an officer holding "the degree and diploma of M.D. and D.P.H. Such a specially trained officer should be responsible, if I might venture to say so, directly to your Excellency. He must have responsibility and he must have control."

In the best interests of Trinidad we trust that we may hear that the suggestions have been carried out both as regards improving the sanitation of Port of Spain and promoting the study of tropical diseases.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 33 of the largest English towns 6700 births and 3842 deaths were registered during the week ending Saturday, May 20th. The annual rate of mortality in these towns, which had been 16·5 and 17·7 per 1000 in the two preceding weeks, declined again last week to 17·6. In London the rate was 16·3 per 1000, while it averaged 18·4 in the 32 provincial towns. The lowest rates in these towns were 9·8 in Croydon, 13·6 in Huddersfield, 13·8 in Bristol, and 13·9 in Portsmouth; the highest rates were 21·7 in Wolverhampton, 23·8 in Plymouth, 23·9 in Norwich and in Liverpool, and 24·6 in Manchester. The 3842 deaths included 354 which were referred to the principal zymotic diseases, against 339 and 365 in the two preceding weeks; of these, 109 resulted from measles, 95 from whooping-cough, 69 from diphtheria, 31 from diarrhœa, 29 from scarlet fever, 20 from "fever," (principally enteric) and one from small-pox. No death from any of these diseases was recorded last week in Croydon, Wolverhampton, or Halifax; in the other towns they caused the lowest death-rates in Preston, Bristol, and Birkenhead, and the highest rates in Salford, Blackburn, Burnley, Leicester, and Swansea. The greatest mortality from measles occurred in Nottingham and Manchester; from scarlet fever in Norwich and Burnley; and from whooping-cough in Plymouth, Cardiff, Blackburn, Burnley, Huddersfield, and Gateshead. The mortality from "fever" showed no marked excess in any of the large towns. The 69 deaths from diphtheria included 24 in London, nine in Leicester, seven in Sheffield, six in Swansea, five in Salford, and three in Leeds. One fatal case of small-pox was registered in Hull, but not one in London or in any other of the 33 large towns; and one small-pox patient was under treatment last week in the Metropolitan Asylums Hospitals. The number of scarlet fever patients in these hospitals and in the London Fever Hospital at the end of last week was 2161, against 2131, 2139, and 2210 on the three preceding Saturdays; 211 new cases were admitted during the week, against 226, 219, and 259 in the three preceding weeks. The deaths referred to diseases of the respiratory organs in London, which had been 251 and 257 in the two preceding weeks, were again 257 last week and were 41 below the corrected average. The causes of 46, or 1·2 per cent., of the deaths in the 33 towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Bristol, Nottingham, Leeds, Newcastle-upon-Tyne, and in 12 other smaller towns. The largest proportions of uncertified deaths were registered in Liverpool, Preston, Halifax, and Gateshead.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 18·5 per 1000 in each of the two preceding weeks, rose to 19·0 during the week ending May 20th and was 1·4 per 1000 above the mean rate during the same period in the 33 large English towns. The rates in the eight Scotch towns ranged from 10·2 in Greenock and 12·8 in Paisley to 20·5 in Glasgow and 22·2 in Leith. The 581 deaths in these towns included 21 which were referred to measles, 12 to whooping-cough, nine to diarrhœa, eight to scarlet fever, five to diphtheria, and five to "fever." In all, 60 deaths resulted from these principal zymotic diseases against 52 and 53 in the two preceding weeks. These 60 deaths were equal to an annual rate of 2·0 per 1000, which was 0·4 above the mean rate last week from the same diseases in the 33 large English towns. The fatal cases of measles, which had been 16 and 27 in the two preceding weeks, declined again to 21 last week, of which 17 occurred in Glasgow, two in Edinburgh, and two in Aberdeen. The 12 deaths referred to whooping-cough slightly exceeded the number recorded in the preceding week, and included six in Leith and three in Edinburgh. The fatal cases of scarlet fever, which had been three in each of the two preceding weeks, rose to eight last week, of which five occurred in Glasgow. The five deaths from diphtheria were within one of the number recorded in the preceding week, and included two in Glasgow and two in Dundee. The five deaths referred to different forms of "fever" showed a further increase upon recent weekly numbers and included two in Edinburgh. The deaths from diseases of the respiratory organs in these towns, which had been 109 and 97 in the two preceding weeks, rose again to 103 last week, but were 16 below the number in the corresponding period of last year. The causes of 19, or more than 3 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin which had been 24·8 and 26·7 in the two preceding weeks further rose again to 26·8 during the week ending May 20th. During the past four weeks the rate of mortality in the city has averaged 27·0 per 1000, the rate during the same period being 16·4 in London and 17·8 in Edinburgh. The 180 deaths registered in Dublin during the week under notice showed a slight increase upon the number in the preceding week, and included seven which were referred to the principal zymotic diseases, against seven and eight in the two preceding weeks; of these three resulted from whooping-cough, two from measles, one from scarlet fever, one from diphtheria, but not one from small-pox, "fever," or diarrhœa. These seven deaths were equal to an annual rate of 1·0 per 1000, the zymotic death-rate during the same period being 1·6 both in London and in Edinburgh. The fatal cases of whooping-cough, which had declined from eight to two in the three preceding weeks, rose again to three last week. The two deaths referred to measles were the first recorded in the city since the beginning of April last. The mortality from scarlet fever showed a decline from that recorded in the preceding week. The 180 deaths in Dublin last week included 23 of infants under one year of age and 45 of persons aged upwards of 60 years; the deaths both of infants and of elderly persons showed a decline from the numbers recorded in the preceding week. Four inquest cases and five deaths from violence were registered; and 76, or more than a third, of the deaths occurred in public institutions. The causes of 11, or more than 6 per cent., of the deaths in the city last week were not certified.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are announced:—Staff Surgeons: J. L. Thomas to the *Endymion* and R. Hardie to the *Astræa*. Surgeons: E. D. Macnamara to the *Endymion*; G. Taylor to the *Astræa*; W. J. Bearblock to the *Cambridge*; G. E. Duncan to the *Renown*; and G. G. Borrett to the *Pembroke*.

The under-mentioned gentlemen, who competed on May 8th and following days at the Examination Hall, Victoria Embankment, for appointment as surgeons in the Royal Navy, have been granted commissions and are appointed to the *Duke of Wellington*, additional for Haslar Hospital:—

Name.	Marks.	Name.	Marks.
H. M. Hart-Smith, B.A., M.B.	2538	N. J. Roche	1969
S. H. Woods, B.A., M.B.	2451	T. Marles-Thomas	1953
P. T. Sutcliffe, M.A., M.B.	2411	A. W. Nourse	1901
J. P. H. Greenhalgh, M.B.	2203	J. H. Jones	1878
L. A. Baiss...	2179	A. H. Prichard	1826
C. R. Nicholson	2172	H. L. Geoghegan, B.A., M.D.	1804
J. T. M. McDougall ...	2096	A. J. Laurie	1804
E. T. Burton	2066	S. J. Haylock	1667
R. Hughes...	1982	J. E. Powell	1685
G. M. O. Richards... ...	1968	J. N. Robertson, M.B. ...	1643
		J. H. Lightfoot	1632
		P. G. Williams...	1612

INDIA AND THE INDIAN MEDICAL SERVICES.

Surgeon-General Harvey, Director-General, Indian Medical Service, takes three months' leave in the middle of May. Surgeon-General Spencer, Principal Medical Officer, Punjab,

officiates. Whilst on leave Surgeon-General Harvey will take the opportunity of visiting the Pasteur Institute at Paris and also Amsterdam in connexion with sewage questions. The retirement of the following officers has been sanctioned: Lieutenant-Colonels D. Martin, I.M.S., and C. Mallins, I.M.S., 1st Hyderabad Lancers; Major Young, I.M.S., Civil Surgeon, Umballa; and Lieutenant Greig, I.M.S., 27th Madras Infantry. The services of Captain Waters, I.M.S., are lent to Bengal, and those of Captain Lane, I.M.S., to the Punjab, for employment in the Jail Department. Captain Statham, R.A.M.C., is detailed for plague duty. The services of Lieutenant-Colonel J. S. Wilkins, D.S.O., I.M.S., are replaced at the disposal of the Government of India from May 1st, 1899, on relinquishing charge of the duties of Special Medical Officer for Plague Operations, Bombay. Major Thorold, I.M.S., has taken over charge of the office of Sanitary Commissioner in the North-West Provinces and Oudh from Colonel Thomson, I.M.S.

ARMY MEDICAL RESERVE OF OFFICERS.

Surgeon-Lieutenant-Colonel C. A. Patten, having resigned his appointment in the Volunteers, ceases to belong to the Army Medical Reserve of Officers.

VOLUNTEER CORPS.

Royal Engineers (Volunteers): 1st Hampshire: Surgeon-Lieutenant J. Kyffin to be Surgeon-Captain. 2nd Lancashire (the St. Helens): Surgeon-Lieutenant-Colonel E. F. Hall resigns his commission, also is permitted to retain his rank and to continue to wear the uniform of the corps on his retirement. *Rifle:* 2nd Volunteer Battalion the Royal Fusiliers (City of London Regiment): Reginald Courtenay Gayer to be Surgeon-Lieutenant. 1st (Pembrokeshire) Volunteer Battalion the Welsh Regiment: Surgeon-Lieutenant J. M. Phillips resigns his commission, also is permitted to retain his rank and to continue to wear the uniform of the battalion on his retirement. 3rd (The Blythswood) Volunteer Battalion the Highland Light Infantry: Surgeon-Lieutenant J. A. Wilson to be Surgeon-Captain.

VOLUNTEER INFANTRY BRIGADE.

South Wales: Surgeon-Lieutenant-Colonel P. E. Hill, 1st Volunteer Battalion the South Wales Borderers, to be Brigade-Surgeon-Lieutenant-Colonel, on appointment as Senior Medical Officer to the brigade.

THE ROYAL MILITARY TOURNAMENT.

If any plea were necessary for the continuance of the annual display at the Agricultural Hall, Islington, the fact that the funds of the military charities are each year greatly augmented through its aid would amply suffice. But there are other and even better reasons which justify the holding of the Tournament. Not the least of these is the stimulus which it gives to recruiting, and so convinced are the authorities of this that should the present show prove successful—of which we presume there can be no doubt—it is proposed to repeat the same exhibition at Manchester almost directly. Another way in which the Tournament does an immense amount of good is by educating the public in things which pertain to military life and warfare.

On Wednesday, May 24th, the eve of the actual opening to the public, a full-dress rehearsal and private view were given before the Press, the committee and members of the Tournament, and others. The first item on the programme, the naval display by seamen from H.M.S. *Excellent*, was highly appreciated by all who witnessed it and illustrated the ability and smartness of those who belong to our first line of defence. The musical ride by the G Battery of the Royal Horse Artillery was something more than a spectacular display and showed to great advantage the cleverness of the Royal Artillery drivers, while the cavalry display by the 6th Dragoon Guards (Carabiniers) and New South Wales Lancers was excellent. Both these exhibitions have a distinct educative value. It often happens that our army when engaged abroad is severely criticised by the public at home because of the ill results following upon what appears to have been some act of indiscretion. If those who judge so severely knew their subject it would often be obvious to them that what they term an act of indiscretion was not only excusable but absolutely inevitable by reason of the difficulties under which real war is conducted. And this is a point which a visit to the Tournament will make clear to the arm-chair critic. The cavalry display as presented at the Tournament brings this out very unmistakeably and teaches a lesson that all should know who desire to sit in judgment upon our troops or their leaders.

The *pièce de résistance* of the show is, of course, the pageant which this year is entitled "Warriors of Britain" and is typical of the gradual evolution of the British army from the time of the Wars of the Roses to the present day. Under the direction of Mr. Clarkson, the well-known costumier and perruquier, the details of the dresses have been made accurate in even the smallest details and the spectacle is quite equal to any of previous years. The gymnastic display by non-commissioned officers under instruction at Aldershot, though not so showy as other items on the programme, shows well the excellence of the physical training which our soldiers undergo. The musical double ride is pretty and effective and the combined display—the storming of Passer Sala—brings the performance to a close.

The sanitary arrangements of the hall are much the same as they were last year and indeed under the direction of the various officers who have been in medical charge of the Tournament little further can be done in a hall which is not peculiarly adapted for military displays. Major H. E. R. James, R.A.M.C., is the Principal Medical Officer this year and he is assisted by Surgeon-Major W. R. Crooke-Lawless of the Coldstream Guards. Veterinary-Major R. Rowe, A.V.D., is the Principal Veterinary Officer.

ENTERIC FEVER IN QUETTA.

As our readers are already aware enteric fever was very prevalent and fatal in the garrison of Quetta last year. It appears that, owing to changes in the head-quarter staff at Bombay, some delay has arisen in giving effect to the sanitary recommendations submitted by a committee appointed to inquire into and to report upon the subject. According to the *Times of India* of May 6th Major-General Sir William Galbraith has proceeded to Simla for the purpose of urging on the Commander-in-Chief the necessity of the measures proposed for minimising the risk of enteric fever in the Quetta garrison. Between August and December, 1898, the deaths from enteric fever in that garrison aggregated 75 rank and file, one officer, and about a dozen women and children, and unless the main recommendations of the scheme submitted are immediately taken in hand the enteric fever season will soon occur again, the prospect of which is something too alarming to calmly contemplate.

THE PUNJAB.

Anti-plague inoculations have become very popular in the Jullundur district where over 4000 people in the infected area have submitted themselves to the process. The inhabitants of all the villages, such as Malpur, Garcha, and Buhara, have been inoculated.

We hear that Professor A. E. Wright of the Army Medical School, Netley, has at length succeeded in convincing the War Office authorities of the advisability of allowing inoculation against enteric fever to be introduced into the army. We hear that all soldiers are to be offered this benefit at no distant date. We believe that the outbreak of typhoid fever in South Africa and the immunity enjoyed by the men of the Royal Army Medical Corps who were inoculated before going to Egypt have been potent factors in bringing about this desirable ruling.

Mr. Norman Hay Forbes, F.R.C.S. Edin., has been appointed a Member of the Royal Company of Archers, Her Majesty's Body Guard for Scotland.

PRESENTATIONS TO MEDICAL MEN. — On May 14th, at the Queen's Walk School, Nottingham, on the occasion of the presentation of certificates to the successful members of the Midland Railway Ambulance Corps, Mr. J. F. Blurton, M.B. Durh., was the recipient of a small dressing-case as a token of the esteem in which he is held by the members of the corps.—On the conclusion last week at Leatherhead of the course of 12 lectures on first aid to the injured in connexion with the St. John Ambulance Association, and a series of six lectures on nursing open to women, the honorary secretary, Mrs. Davis, on behalf of those attending, presented Mr. James Dunbar-Brunton, M.B. Edin., with a silver inkstand, appropriately inscribed, as a mark of appreciation of his gratuitous services.

Correspondence.

"Audi alteram partem."

MEMORIAL STATUE TO SIR THOMAS BROWNE, M.D.

To the Editors of THE LANCET.

SIRS,—The committee begs permission to appeal through your columns for the support of the medical profession to the above memorial. Sir Thomas Browne in his day occupied the highest position in his profession and is confessedly one of the greatest and most eminent of our English writers and philosophers. Yet he stands almost alone amongst these as having no permanent public memorial. The movement to erect a statue of him in Norwich, where he resided for 46 years and where he is buried, has received most influential support both medical and general, and it now includes that of the Royal College of Physicians of London and of its President. The sum of about £400 has so far been subscribed and further contributions are now solicited towards the estimated £1000 or £1200 required. Donations to the fund will be gladly received by either of the honorary secretaries, Dr. Bensly or Mr. Charles Williams of Norwich, or by the acting secretary, Mr. F. R. Eaton, King-street, Norwich.

I am, Sirs, yours faithfully,

PETER EADE,
Chairman of Committee.

May 24th, 1899.

PERSONATION BY "QUALIFIED" ASSISTANTS.

To the Editors of THE LANCET.

SIRS,—Will you allow me space to caution medical practitioners against employing alleged qualified assistants until those seeking employment can produce certificates of registration from the General Medical Council and diplomas. There are cases of undoubted personation in existence now—unqualified men taking and using the names of duly qualified practitioners without, I need hardly say, the knowledge and consent of the latter. I have just come across such a case, the third within a short space of time and I trust that steps may be taken to prosecute the offender.

I am, Sirs, yours faithfully,

A. G. BATEMAN,
General Secretary of the Medical Defence Union.

4, Trafalgar-square, W.C.

THE OPEN-AIR TREATMENT OF PHTHISIS IN VICTORIA.

To the Editors of THE LANCET.

SIRS,—In an abstract from Dr. McAdam's presidential address at the annual meeting of the Victorian Branch of the British Medical Association which appeared in THE LANCET of Feb. 11th is the following sentence: "That while the Victorian climate was 'second to none in the facilities it afforded for taking advantage of the full benefit of the open-air treatment, yet there was in the colony no institution in which any attempt was made to carry it out in its completeness.'" Now so far from this being the case we have in Victoria two buildings known conjointly as the Victorian Sanatorium for Consumptives—one on the dry plains for winter and a mountain retreat for the hot months. Altogether there are 54 beds which are under one management and are generally full. It is difficult to know what Dr. McAdam means by the open-air treatment "in its completeness," for even in Germany, the cradle of the system, the treatment varies in different sanatoria. Our institution is carried on medically and financially much on the same lines as Ruppertshain in Germany and Heiligenschwendi in Switzerland, which were recently visited by myself. In another part of the colony there is in connexion with the Austin Hospital for Incurables accommodation for 30 incurable cases. This institution works in a friendly way with the Victorian Sanatorium and patients are frequently interchanged. Considering that the population of our colony is only a little over a million I think that as far as accommodation for consumptives is concerned we compare favourably with other places. I may say that I am rather surprised that a gentleman of Dr. McAdam's standing should make such a statement without duly acquainting himself with the facts.

I am, Sirs, yours faithfully,

DUNCAN TURNER, M.R.C.P. Lond.,
Honorary Medical Examiner, Victorian Sanatorium.

April 8th, 1899.

"FEES TO MEDICAL WITNESSES AT ASSIZES AND SESSIONS."

To the Editors of THE LANCET.

SIRS,—Let me thank you for once more bringing this matter to the front. I wonder how many medical men will have the courage to act upon the suggestion which you throw out in the last paragraph of the leading article under the above heading in THE LANCET of May 6th. I do not object to the medical men here refusing to make the sacrifices entailed by accepting police and assize court work. They do it though with the knowledge that the police surgeon is not quite so free as themselves to refuse all the filthy cases. The matter of the rape which you allude to seems like one that happened here a month ago when for more than two hours the police vainly tried to induce a medical man to examine an unfortunate child, 10 years old, who was said to have been criminally assaulted. It seems that it will take a few scandalous cases of that kind to bring the Home Secretary to understand that we are in earnest. I would suggest that all medical men should communicate with their respective Members of Parliament with a view to bringing some pressure to bear upon the Home Office. I am, Sirs, yours faithfully,

J. CHRONNELL.

Hindley, May 15th, 1899.

COINCIDENCES IN MEDICAL PRACTICE.

To the Editors of THE LANCET.

SIRS,—In THE LANCET of May 13th you comment on this point under the heading "Coincidences in Hospital Practice," the annotation being suggested by articles on two rare forms of hernia and two cases of filariasis which had come under observation at the London Hospital within a very short space of time. As you remark, cases such as these are by no means uncommon in hospital practice, but they are far less frequently seen in private practice, and it is this fact of "coincidence" alone and not the nature of the injury sustained which induces me to place on record the following singular experience.

About noon on Sunday, April 30th, 1899, a man from Tillingham (a village 16 miles away), aged 68 years, was admitted to the Maldon Workhouse Infirmary under the care of my partner, Mr. Thomas Tomlinson, the medical officer, suffering from an injury to the left shoulder. He stated that he was at Bradwell, a village near Tillingham; on the previous Thursday evening, April 27th, and whilst holding a horse harnessed to a trap the animal reared, lifting him suddenly from the ground by the left arm. A medical man found that the patient had sustained a dislocation of the humerus, but he could not reduce it at the time or at a second attempt made on April 29th. The patient was therefore sent to the workhouse infirmary. We found the injury to be of the subglenoid variety, and under anæsthetics reduction was effected. The patient returned to his home on the same afternoon.

On the following day at 1 P.M. a native of Bradwell, aged 19 years, was admitted to the workhouse infirmary suffering from an injury to the left shoulder received at the same time as the injury to the previous patient had been received. The history he gave was that when the former patient fell to the ground he had gone to his assistance and was knocked down by the horse, his left arm being trampled upon. We diagnosed a sub-glenoid dislocation and under slight anæsthesia this was quickly reduced, although owing to the patient being rather muscular more force was required than in the first case. He left the workhouse almost immediately. That as the result of what may be called one accident two persons only should suffer and each receive exactly the same injury—viz., a dislocation on the same side and of the same variety—and that injury alone, must I think be a unique occurrence. The accuracy of the patients' statements was vouched for by the gentleman who brought them both to the workhouse.

I am, Sirs, yours faithfully,

HENRY J. PRICE, F.R.C.S. Eng.

Maldon, Essex, May 23rd, 1899.

"GONORRHŒAL SALPINGITIS."

To the Editors of THE LANCET.

SIRS,—In THE LANCET of May 20th I am reported (p. 1367) as having said during the discussion on Gonorrhœal Salpingitis at the British Gynæcological Society on May 11th that in cases of salpingitis the tubes were "sterile in 60 per cent. of cases, the gonococcus was found in 20 per cent., and other micro-organisms in the remaining 20 per cent. In the last group the infection had no doubt been primarily gonorrhœal and there was a secondary infection by the bacillus coli or the tubercle bacillus." I cannot accept responsibility for this statement as to the tubercle bacillus. What I did say was that probably *some* of the cases included in the last group were primarily due to a gonorrhœal infection but that there had occurred a secondary infection by some other micro-organism, notably by bacillus coli communis. I did not say anything as to tubes primarily infected by the gonococcus being specially liable to subsequently become infected by the tubercle bacillus.

I am, Sirs, yours faithfully,

May 20th, 1899. ALEXANDER G. R. FOULERTON.

"A CRITICISM OF THE MORE COMMONLY EMPLOYED TESTS FOR ALBUMIN IN URINE."

To the Editors of THE LANCET.

SIRS,—In leaving this subject pending further investigations I would like to point out definitely how the matter stands. In my paper I looked at the matter from the clinical point of view and did not push the tests to a chemical conclusion. I have repeated my experiments twice since and it may be taken as certain that, judging from egg albumen in aqueous solution and pushing the tests to a chemical conclusion, (1) taking the excretion of urine at 50 ounces per diem the heat test will not detect a loss of albumin (dried at 100° C.) of less than from three to three and a half grains per diem; (2) under the same conditions the nitric acid test will detect a loss of a quarter of a grain per diem; and (3) a solution of carbolic acid in absolute alcohol is almost as delicate as the nitric acid test.

The heat test was applied in the usual way—namely, by heating the upper part of the tube to ebullition and after observation heating again after the addition of a drop of acetic acid. Picric acid is much more delicate as a chemical test than I made it in my paper, but the fineness of the cloud, its colour, and the fact that at an early stage of dilution it is clear to transmitted light make its clinical value stop probably at a loss of about two grains of albumin per diem. The investigations will be continued with serum-albumin and in mixtures. Dr. Brodie, my fellow assistant to the Professor of Physiology in Glasgow University, has undertaken an independent investigation. We use different balances, pipettes, and weights and compare results of series of experiments, so that it is not likely that any error in observation will escape detection.

I am, Sirs, yours faithfully,

Glasgow, May 22nd, 1899. WALTER COLQUHOUN.

THE TREATMENT OF TETANUS.

To the Editors of THE LANCET.

SIRS,—I have read with considerable interest the cases of tetanus recently recorded in THE LANCET. It occurs to me that a great opportunity has been lost of harmonising practice with theory. No cultivation appears to have been made in any of the cases recorded. If the drum-stick bacillus of Nicolaier be the actual cause of the disease in question and, being an anaerobic organism, of necessity confined to the tissues in the immediate vicinity of the wound and from thence distributing toxin to the general system, surely the indication would be freely to excise the part, and if necessary to amputate, in either case taking special care not to inoculate the new wound. I must frankly confess to a feeling of disappointment at this not having been done, as two of the cases ended fatally.

I am, Sirs, yours faithfully,

STEPHEN TOWNESEND, F.R.C.S. Eng.

Inner Temple, May 23rd, 1899

PAROTITIS AND INFLUENZA.

To the Editors of THE LANCET.

SIRS,—In an annotation in THE LANCET of May 20th entitled "The Bacillus of Influenza," mention is made of the occurrence of parotitic symptoms in conjunction with the presence of the Canon-Pfeiffer bacillus in the bronchial mucus. This is the first time I have seen in print a suggestion that parotitis may be a complication of influenza and it will accord with the view I took of a case which came under my notice early in the year. In the early part of February I was in attendance for well-marked influenza on two children in a young ladies' school. The head mistress of the school, who, by the way, is a rheumatic subject, nursed them, and in a short while fell sick herself in the same way. On Feb. 11th she was convalescent and two days later, after being downstairs, she had a rise of temperature and pain in the parotid regions—in short, went through a mild attack of what appeared to be mumps. Arising in a school I was eager to trace the source of infection, although I was doubtful whether the complaint was true mumps. All I could ascertain was that a small child had had influenza and had thereafter a similar attack to that from which my patient was suffering, that it was considered an influenzal manifestation, and that she was allowed to mix with others—indeed, she attended at the school some three weeks or more prior to my patient contracting the parotid symptoms. I may say that no other cases of mumps arose in the school, although if the little girl was the source of infection she would be far more likely to infect some other child than to infect the headmistress, of whom she saw very little. I should add that my patient although in middle life had never had mumps, though of course I isolated her so far as was possible. I thought at the time that the complaint must be an influenzal parotitis and not true mumps, but I have not seen any other such cases and have not heard of any other than the little girl mentioned above. I could not get precise dates as to when this child came into the school. It would be interesting to know if many of your readers have met with such a complication or sequela of influenza. I should not have thought of mentioning the matter in print myself but for your annotation. I crave your indulgence to allow me to remain anonymous on this occasion and will subscribe myself,

Yours faithfully,

London, May 23rd, 1899. M.D. CANTAB.

THE GERMAN SURGICAL CONGRESS.

(FROM OUR BERLIN CORRESPONDENT.)

(Concluded from p. 1190.)

Phosphorus Necrosis.

DR. VON STUBENRAUCH (Munich) said that in experiments made for the purpose of elucidating the action of phosphorus on the bones he trephined the mandibles in dogs and guinea-pigs and injected phosphorus through the alveolus, but necrosis did not ensue. He then exposed the animals to vapours saturated with phosphorus and obtained the same negative result. In order to imitate as much as possible the conditions which the workpeople encounter in match factories the animals were sent to a match factory to be left for a certain time in the drying room which is the most unhealthy department. Although the periosteum had been previously removed from the mandibles no necrosis took place. Dr. von Stubenrauch therefore concluded that the typical necrosis of workers in match factories is not caused by the vapours alone but that a specific predisposition must also exist.

Ileus caused by Gall-stones.

Professor REHN (Frankfort) reported the case of a man operated on for strangulated umbilical hernia. The intestine being gangrenous it was resected and a large gall-stone was found in it. The patient recovered. Professor Rehn said that gall-stones may produce the symptoms of ileus either by mechanical occlusion or by causing inflammation of the intestines. A reflex occlusion, as suggested by Professor Koerte, may sometimes occur; sometimes the stone by conveying virulent germs may irritate the mucous membrane of

the intestine. The stone may either traverse the whole intestinal tract or may remain for a long time at one place. Colic or even volvulus may be the consequence and when the peristaltic action is not strong enough to urge the stone forwards ulceration and some degree of peritonitis may ensue. It is essential that the diagnosis should be made as early as possible and the stone removed by operation. Ileus caused by gall-stones must be treated like other forms of ileus; the condition of the intestines and the general state must be duly considered and in every case of colic the gall-bladder ought to be examined.

Obstruction of the Intestine by a Piece of Gauze.

Professor REHN also described a case in which after a woman had been operated on for pyosalpinx a fæcal fistula was formed and when it healed the patient felt quite well. Four months after the operation she suffered from colic and a tumour could be felt on the right side of the abdomen. Symptoms of ileus suddenly occurred and the abdomen having been opened 40 centimetres (16 inches) of necrosed intestine were removed, the region of the first operation being quite normal. A large piece of gauze was found in the removed portion of intestine. Owing to the impossibility of its having penetrated from the abdomen through the intestinal walls Professor Rehn was of opinion that the patient, a hysterical woman, had swallowed the gauze.—Dr. KADER (Breslau) said that he had observed a similar case where colic was complained of 10 days after an operation for pyosalpinx and the wound spontaneously opened. After some time a piece of gauze was passed by the anus and the patient ultimately succumbed to ileus and peritonitis. The necropsy showed extensive intestinal lesions which rendered it probable that the gauze had made its way from the abdomen into the intestine. Dr. Kader then made experiments on animals and ascertained that a silk thread tied round the intestine after some time cut through the intestinal wall and it was found in the interior of the intestine.

Coxa Vara.

Dr. SUDEK (Hamburg) read a paper on the Anatomical Conditions of Curvatures in the neighbourhood of the Hip-joint, and drew attention to a spine on the top of the curvature. This spine, though not described in anatomical works, may also be found in normal femora; it originates from the osseous tissue between the trochanter and the head of the femur and in Dr. Sudek's opinion belongs to the epiphysis. Dr. Sudek agreed with Dr. Sprengel that coxa vara was often of traumatic origin and was especially liable to be produced by the weight thrown on the femora of young persons whose bones were not rigid.—Dr. SPRENGEL (Brunswick) showed a case of Traumatic Coxa Vara operated on by him. He said that the traumatic origin of the disease might be inferred: (1) when the pain is severe; (2) when the disease has suddenly developed; (3) when it is unilateral only; and (4) when no other deformities are present. He warned his hearers against confounding coxa vara with subcapsular fracture of the femur.—Dr. HOFMEISTER (Tübingen) said that the differential diagnosis between traumatic and non-traumatic coxa vara might be very difficult, especially when no clinical history was obtainable. Cases with contractures were always traumatic.—Professor KOCHER (Berne) was of opinion that genuine coxa vara was caused only by overweighting the femur. As regards treatment, he preferred resection to osteotomy.

Carcinoma of the Penis.

Dr. KÜTTNER (Tübingen) described a case of carcinoma of the penis where the lymphatic glands of the abdomen were affected by metastases earlier than the inguinal glands. He has studied the anatomy of the lymphatic vessels of the penis and has discovered that they are in connexion partly with the inguinal and partly with the abdominal glands. In cases of carcinoma the glands of both regions ought therefore to be removed.

Buttons for Intestinal Surgery.

Dr. SULTAU (Göttingen) drew attention to some disadvantages of Murphy's button, especially its weight which might produce necrosis and perforation of the intestine. The construction of a button capable of being completely disintegrated was difficult and in Dr. Sultau's opinion it was sufficient to have a button which is partially disintegrable, leaving an insoluble portion small enough for easy expulsion. The button used by him consisted of two parts of decalcified ivory connected together by a metallic ring, and between them a piece of caoutchouc was interposed in order to make gentle pressure on the intestine. The buttons were covered with caoutchouc so as to avoid too rapid disintegration. The metallic ring was easily expelled.

Transplantation of Cartilage.

Dr. VON MANEGOLD (Dresden) showed patients in whom he had, after resection of the larynx, performed transplantation of pieces of cartilage from the ribs. The patients had suffered either from strictures of the larynx caused by syphilitic and tuberculous ulceration or from malignant growths. They could now be understood when they spoke; the results of the treatment must therefore be regarded as encouraging.

Suture of Wounds of the Heart.

Professor WEHR (Lemberg) described Experiments on Suturing the Heart Muscle in Animals. After partial resection of several ribs and opening the pericardium the heart was incised and the wound sutured. The hæmorrhage was stopped by digital compression.—Professor REHN (Frankfort) said that at the meeting of the Congress in 1897 he reported a case of Wound of the Heart in which he had operated.[1] The patient still remains quite well.

Papers were also read by Professor HOFFA and Professor LORENZ on Congenital Dislocation of the Hip-joint; by Professor TILMANN on Fractures of the Skull; by Dr. BENDA, Dr. KÜTTNER, and Dr. VON BÜNGNER on Tuberculous Osteitis; by Dr. HERCZEL and Dr. VON BECK on Gastro-enterostomy; by Professor KRAUSE on Resection of the Occipital Nerves; and by Dr. JORDAN on Perinephritis. Professor VON BERGMANN was elected president of the next Congress.

THE INTERNATIONAL MEDICAL CONGRESS, PARIS, AUGUST, 1900.

(FROM OUR SPECIAL COMMISSIONER.)

THE French committee entrusted with the organisation of the next International Medical Congress have already completed all the preparatory work which can possibly be done at this early stage. This, the greatest of all the congresses, will meet, as already announced, in 1900 from August 2nd to August 9th. It was in January, 1898, that the members of the organising committee held their first sittings and they soon found that they had before them a most formidable task to accomplish. First it was necessary to decide into how many sections the Congress should be divided. Acting on the experience acquired during the Universal Exhibition of 1889 a strong feeling was manifested that there had been too many congresses on the preceding occasion. This time the tendency is towards concentration and we shall therefore witness an amalgamation of congresses. Three or four congresses have decided to unite their forces with the general Medical Congress. Thus, instead of having a separate International Congress on Forensic Medicine, another on Diseases of the Urinary Organs, and a third on Dermatology, the members of these three congresses will join the International Medical Congress and content themselves with forming sections of this one great congress. Probably the International Congress on Therapeutics will also follow the same course. On the other hand, much greater liberty or autonomy has been given to the sections. Indeed, it amounts to this, that each section will constitute, comparatively speaking, a small congress of its own, federated for common purposes with many other congresses meeting at the same time. In one respect this greatly simplifies matters: the one circular serves for all the congresses, or, rather, sections as they must now be called. On the other hand, the International Medical Congress, already very unwieldy in consequence of the large number of its members, will have an even greater number of adherents than in former congresses. At the last congress, which was held at Moscow, there were about 7000 members inscribed and not far short of 5000 were actually present. But it is far easier to go to Paris than to Moscow, and therefore it is anticipated that a much greater number of members will attend the congress at Paris. How are all these many guests to be received? There must be at least one general meeting of the congress, and where can

[1] THE LANCET, May 8th, 1897, p. 1306.

such a meeting be held? There is but one hall in Paris which will hold about 10,000 persons and that is the great hall of the Trocadéro. But in discussing this matter with me the general secretary of the congress, Dr. Chauffard, displayed a strong prejudice against this hall—he urged that the acoustics were bad and, above all, that the hall was ugly. It was only necessary to look round the apartment which Dr. Chauffard inhabits to realise that he has a very keen and artistic appreciation of the beautiful. He was eloquent in expressing the desire that the congress should meet in some place where the decorations would be artistic and suitable to the occasion. Undoubtedly the new hall of the Sorbonne is admirably adapted for the purpose only it is not half big enough; but he could not bring himself to forgive the Trocadéro its inartistic appearance. I suggested a theatre, but even the Grand Opera can comfortably seat only 3000 persons. What will be done to meet this difficulty has not yet been decided.

There are to be 23 sections in all, and so far as the sectional meetings are concerned they can be easily housed and this in an appropriate manner. Thus the Section of Dermatology will meet at the St. Louis Hospital for Venereal Diseases, where a magnificent museum will be at the disposal of the members. The Section on Urinary Diseases will meet at the Necker Hospital, where that class of complaint is treated. The Collège de France, the Sorbonne, and the Faculty of Medicine will be at the disposal of the other sections. To obtain reporters for all these sections has been a colossal undertaking. Contrary to the policy followed by the organisers of the International Congress of Hygiene, the organising committee of the International Medical Congress have addressed themselves more particularly to foreigners. Thus, for instance, when it is judged necessary to appoint three reporters on any given subject there will be only one French reporter, the two others will belong to some other nationality. The French organisers felt that, as a matter of courtesy, they should give to their guests the largest share in the proceedings. But for this purpose it has been necessary to undertake an amount of correspondence which can scarcely be appreciated except by those who have had some experience in this sort of work. As a result of this vast correspondence some 250 medical men, of whom only a third are Frenchmen, have undertaken to act as reporters on the various subjects which are to be submitted to the 23 sections. Some sections will have reports on six different questions, some on only three, but four questions per section is the more general rule. All these reports will be written in French, English, or German; but those who report in either of the two last-mentioned languages are requested to add a short summary of their reports in French; if they cannot do this themselves then the organising committee will endeavour to have these summaries translated into French for them. The reports will be published in full and will constitute as it were the official subjects of discussion.

Apart, however, from these reports, individual members of the congress are at liberty to send any communications they choose which are suited to the section of the congress which they propose to attend. These communications or papers can be read in the sections, but the committee do not undertake to publish more than a summary of them, unless they prove to be of exceptional importance. A circular giving full details of all the reports expected, the names of the reporters, of the presidents, of the secretaries, and of the committee men of the 23 sections, the rules of the congress, the form which has to be filled up by intending members, and other information is now in the hands of the Government printers. This circular will be issued in French, English, and German, and will be despatched to all countries during the course of this summer. For the present the organising committee have nothing more to do. They must now wait for the replies which this circular will elicit. In the meanwhile the organising committee are anxious to express their high appreciation of the friendly support which they have received from members of the profession in all countries. The letters which they have sent abroad have met with a prompt response and this has greatly facilitated the work of organisation.

The organising committee are now desirous to impress on intending foreign visitors the absolute necessity of forming national committees or in some other way of taking measures to ensure that there shall be the necessary accommodation for them when they reach Paris. The United States of America is as yet the only nation which has provided for this. The American Government has a representative in Paris who is organising for the reception of all American exhibitors and of all Americans who mean to attend any of the congresses. This agent will secure rooms for them in advance. The British members of the congress would save a great deal of trouble and expense if they constituted a British committee, created a common fund, and despatched a commissioner to Paris. This representative by contracting for several hundred rooms in the different hotels could obtain them at a cheaper rate. Wholesale transactions are always less expensive. A member of the congress arriving in Paris alone would be charged some exorbitant price for his room and might even fail altogether to obtain a room. The overcrowding in consequence of the Universal Exhibition and of the International Medical Congress threatens to be unprecedented. The organising committee cannot undertake to find lodgings for the thousands of visitors expected; they will have work enough to do in attending to the business of the congress itself. The general secretary was therefore very anxious that I should endeavour to impress upon the British members that it was absolutely necessary that they should institute some sort of organisation of their own with representatives in Paris to secure the necessary accommodation. This must be done a long time beforehand. Every member of the congress must make up his mind when he is coming to Paris, how long he desires to remain there, and what sort and number of rooms he will require, and these he must secure before leaving England, otherwise he will run a great risk of being stranded in the streets of Paris and will become the helpless victim of every form of extortion. All this should be seen to and in good time. Meanwhile all correspondence relating to the International Medical Congress should be addressed to the general secretary, Dr. Chauffard, 21, Rue St. Guillaume, Paris.

Paris, May 15th.

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

The Plague in India.—Complaint from the English Medical Men and Nurses.—Further Experiments with Curative Serum.

PLAGUE returns for India for the week ending April 30th show a further great reduction, the deaths having fallen to 1184 in the Bombay Presidency, of which Bombay city reports 360 and Karachi city 207. The Madras Presidency is almost free. In the Mysore State, Mysore city, and the Kolar goldfields the cases are also fewer. In the Bengal Presidency there were 141 deaths reported, of which Calcutta furnished 125. The Punjab returned 25. The Central Provinces, the Hyderabad State, Rajputana, and Assam are practically free. The rapid fall in Bombay city exactly corresponds with the experience of previous outbreaks and amounts to a diminution of nearly 200 deaths for every week since the climax towards the end of March. In Calcutta the outbreak still keeps subdued and shows no sign of increased virulency. The cases are now fairly well scattered over all parts of the city. In Karachi the disease has shown a decided change for the better and the third outbreak is now probably on the decline.

Many complaints are being made by the medical men and nurses who have come out from England for plague duty and little inducement appears to be offered to them to remain. I understand that in consequence of so many having resigned fresh help again is being sought for. It would surely have been better to keep if possible those who have partially learnt the language and know something of the habits and customs of the natives. Petty annoyances in the way of official difficulties in getting pay, inadequate lodging accommodation for the sisters, unreasonable opposition to a few days' casual leave after continuous service over a considerable period, prolonged delay in replying to official communications involving anxiety and expense to the applicants, bad management with regard to duties, and insufficient subordinate native assistance, are some of the additional grounds which have recently given rise to so much dissatisfaction. I understand that volunteers for plague duty were recently called for from all parts of India and that only three medical officers were willing to come forward. This, considering that the service men get extra pay, shows the unsatisfactory

manner in which plague officials are treated. As far as the English medical men and nurses are concerned there seems to be an official passive opposition against them. There is an entire want of liberality of treatment and unnecessary difficulties are continually being placed in their way.

The claims of Lustig's new curative serum apparently want pushing if one may judge from a report recently prepared by Dr. Galliotti and forwarded to the Municipal Commissioner of Bombay. If the cases are allowed to speak for themselves they pronounce it a failure. As a matter of fact, the published figures are wholly misleading because the cases were practically selected ones. At the Arthur-road Fever Hospital and at the Mahratta Hospital from Jan. 29th to the end of February 68 patients were treated, of whom 48 died and 20 recovered, giving a mortality-rate for even these selected cases of 70·6 per cent. The whole hospital mortality for the month of February was 79·41 per cent. The unscientific basis of such returns makes the whole experiments and the report absolutely valueless, and when it is remembered how many cases are brought to the hospitals to die within a few hours which, of course, are not subjected to the curative serum treatment but go to swell the mortality returns of the hospitals it will even be thought that the curative serum treatment must have raised the mortality rather than reduced it. In another report submitted by Dr. Choksy of the Municipal Fever Hospital a further series of cases is referred to which were treated during the month of March. 74 patients were treated, of whom 49 died and 25 recovered, giving a mortality-rate of 66 21 per cent., against 79·48 per cent. in cases not treated with the serum. It must here again be noted that all cases which were moribund and all those which had gone over six or seven days and were either semi-convalescent or convalescent were excluded. The cases which prove fatal within 24 hours after admission to hospital amount to over 30 per cent. and a certain proportion of cases die after seven days of illness and during convalescence. To say that the cases selected represent a fairly average type of acute cases is absurd. Then again it is asserted that the serum treatment has been put to as severe a test as possible during the height of the epidemic. To pick cases is neither a severe test nor a scientific method and to excuse the failure of the serum by stating that the epidemic has been known for its extreme virulence is discounted by the fact that the mortality of plague cases in the same hospital at the same time last year was within a fraction of what is recorded this year. I regret to be obliged to state that there is no satisfactory evidence to show that Lustig's serum can reduce the mortality-rate in the slightest degree.

May 4th.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

Malaria and Mosquitoes: Address by Major Ross, I.M.S., at University College.

MAJOR ROSS, I.M.S., the recently appointed lecturer in the School of Tropical Diseases, delivered an interesting illustrated lecture on the Relations of the Malarial Parasite to the Mosquito in the physiological theatre of University College. The lecturer said that malaria was not so dramatic a disease as cholera; it did not kill so quickly, but it killed far more people. In India it killed about 5,000,000 people a year. It was also a politically important disease because it checked the progress of civilisation in districts the richest in the world, killing more of our army than were killed by the enemy. Malaria had been found to be due to a parasite in the blood. Of this he was absolutely certain, having studied the subject for 10 years in the tropics. The lecturer explained how a parasite gradually developed, destroying a corpuscle of the blood and leaving it a mere shell; when fully developed it scattered and, attacking other corpuscles, destroyed and poisoned them likewise. Even if not so numerous as to cause fever they bred in comparatively small numbers, they caused an indifferent condition of health. The treatment was quinine, but this did not help them very much. What they required to know was how malarial fever was produced. To do so they must find the parasite in external nature and the problem had been solved by Dr. Patrick Manson. Besides these forms of malarial parasites which had been described other forms were found. Describing how in watching a drop of blood drawn from a malarial patient there was seen in 11 minutes the remarkable effect of snake-like forms wriggling away and disappearing, Dr. Manson came to the conclusion that the life-history of the malarial parasite when it left the human being was carried on in the mosquito, and therefore that malarial fever was propagated by the mosquito. The lecturer described how in the tropics he followed out Dr. Manson's theory beyond the point where he left it. The mosquito, which was not an ephemeral insect but one which would live for months under favourable conditions, he found to be furnished in certain species with an internal process which developed the parasite and its poison and lodged it into a poison gland opening into the creature's proboscis. The mosquito, in puncturing the skin, was thus the means of inoculating a human being with the malarial poison. It was hoped that this species of malarial mosquito might be exterminated in certain districts and this he mentioned would be the subject of a future lecture.

Hospital Extension at Widnes and Wallasey.

The foundation-stone of a new wing to the infectious diseases hospital at Widnes was laid by the chairman of the Widnes Health Committee on May 16th. For some time past the hospital had proved inadequate for the requirements of the borough and it was felt by the medical officer of health that in the event of the outbreak of an epidemic it would be impossible to cope with such a contingency. The new wing of the hospital will contain the house surgeon's, matron's, and nurses' rooms, a surgery, and store-rooms. The enteric fever wards will provide 10 beds for male and 10 beds for female patients. There will also be two wards in the observation block. The joint Health and Works Committee of the Wallasey council have decided to extend their infectious hospital at Mill-lane at a cost of £9030.

Appointment of Bacteriologist to the Liverpool Workhouse.

The select vestry, upon the recommendation of the medical officers of the Liverpool Workhouse, have decided to appoint a bacteriologist to the workhouse hospital. Hitherto the medical officers had endeavoured to utilise this science through the favour of the professor of pathology at University College who had gratuitously examined many specimens for them. The Mill-road Infirmary of the West Derby Union possesses a well-equipped laboratory and it was felt by Dr. Alexander and Dr. Robertson that the workhouse hospital was being left behind other Liverpool hospitals. They did not ask for laboratories or expensive apparatus in view of the close proximity of the Thompson-Yates laboratories. It was unanimously agreed to appoint Professor Boyce as bacteriologist to the workhouse hospital at an annual salary.

Drunkenness in Liverpool.

Dr. Hope, in his annual report for 1898, commenting on the deaths in Liverpool due to excessive drinking says that there appears to be no reason to doubt that the total amount of drunkenness in the city is diminishing and there is evidently a gain to propriety in the decrease in the amount of drunkenness in the open streets. There is, however, room for doubt whether there is any diminution in the gross abuse of alcohol within doors in the more squalid parts of the city. 10 years ago—namely, in 1889—police cases of drunkenness numbered 16,000; by rapid annual decreases the number last year had diminished to 4000. But if the deaths from excessive drinking in the two years be compared there is found to have been only a slight diminution in the deaths amongst males from that cause, while the deaths of females from a similar cause have actually increased. Deaths from excessive drinking are localised and it is in the district where they are most numerous that the general death-rate is highest and the proportion of deaths in workhouses is greatest. Inquests were held during the year on the bodies of 204 persons—viz., 43 males and 42 females whose deaths were due to excessive drinking; 56 males and 33 females whose deaths were accelerated by excessive drinking; and 13 males and 17 females who were fatally injured by accident or suicide whilst under the influence of drink. There were two deaths from violence caused by persons under the influence of drink, the persons who were killed being also intoxicated at the time. Dr. Hope deplores the vice of intemperance as a cause of poverty, disease, and death, and its paralysing influence on the efforts of the sanitary authorities in the direction of improving the condition of the masses.

May 23rd.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Manchester Parks and Playgrounds.

IF Manchester is named, the mental eye of the untravelled Southerner sees a dirty, smoke-enveloped wilderness of cotton mills and mean streets inhabited by a semi-barbarous race of sickly and stunted factory hands. It is not quite so bad as that, but even to-day the conditions are not favourable for the physical development of the city operative and Manchester has but slowly learned the importance of providing open spaces for recreation and health. The total area within the city boundaries is at present 370 acres, divided into 23 open spaces, the largest, Boggart Clough, containing 76 acres, the rest varying in size down to one acre in extent. The euphonious name Boggart Clough, or Boggart's Hole Clough, was given presumably from its having the reputation of being haunted, "boggart" being the vernacular for ghost or spectre. In addition to these there are various small open spaces valuable as playgrounds for the children and portions of the larger ones also are set apart for the same purpose. The suburb of Crumpsall is one of the last to be provided with a park, which is to be opened shortly by the Lord Mayor. It occupies 12 acres and when completed will have cost about £21,000. A more recent and comparatively less costly acquisition is at Newton Heath, where the Brookdale estate of 45 acres, together with a mansion, has been bought by the corporation for £26,500. Nothing need be said as to the importance and value of these open spaces to the working classes, but the idea that it was the duty and interest of the corporation as guardians of the public health to provide them instead of leaving it to private benevolence is, unhappily, of recent date. Had it been otherwise large open spaces and parks might have been secured at far less cost than is now required and the amœba-like growth of whole districts of brick would not have been allowed without a much more generous distribution of air spaces than we find at present. It is a matter of keen regret to many that owing to the dilatory and haggling tactics of the corporation Trafford Park with its 1100 or 1200 acres was lost to Manchester and snapped up by a syndicate.

The Salford Sanatorium.

The Salford Corporation find it necessary to extend the Ladywell Sanatorium and wish to borrow £19,550 for the purpose. During the inquiry by the Local Government Board on May 12th Mr. Mullen, the medical superintendent, said that there was a general want of accommodation and had been, especially as to cases of scarlet fever and enteric fever, during the last three years. At present they could take 96 scarlet fever and 48 enteric fever cases, and the proposed addition was for 48 beds for the former and 32 for the enteric cases, with 12 beds for the nursing staff. Salford was increasing immensely and, as the chairman of the Health Committee said, "the Ship Canal has done a good deal towards that." He also said that 73 per cent. of the notified cases came into the hospital and that there was no difficulty in getting cases to come in. Mr. Tattersall, the medical officer of health, confirmed Mr. Mullen's statement as to the desirability of extension. He was asked by the inspector if there was any smell from the Ship Canal and said: "There is still a little in summer, but it is getting less year by year," owing to the efforts of the Mersey and Irwell Joint Committee. We must be thankful for this if it is really so and not due to the deadening of the olfactory sensibility of Salford.

Accommodation for Lunatics in the Chorlton Union.

At the meeting of the Chorlton Guardians on May 12th the chairman drew attention to the want of accommodation for lunatics which he described as disgraceful. Instead of sending them to the workhouse at Withington "they ought to be in an asylum." For the past two years there had been the greatest difficulty in getting lunatics, especially males, into the county asylums. With females the difficulty had been less, but it was said that "the Lancaster Asylum was now full up." Dr. Rhodes said that the Asylums Board were doing their best to meet the demand for accommodation. He hoped that in about twelve months a part of the Winwick Asylum would be opened. They were also putting up buildings at the asylums near Preston and at Prestwich and Lancaster. It would seem on the face of it as if the authorities could not provide rapidly enough for the increase of lunacy.

Appointing Two House Surgeons for the Union Workhouse.

At the same meeting the Chorlton Guardians appointed a senior and a junior house surgeon for the workhouse. One of the lady guardians said that there were nine applicants, six of whom were women, but two of the men were chosen and recommended for the appointment. She wished to know if the women were left out because they were women. "They stood as a pioneer board and if the women had been dropped out on account of their sex she did not think that they could claim to hold that position any longer." She was informed that the sub-committee had brought before the board the two candidates whom they thought most eligible. Dr. R. Kelsall and Mr. W. H. Richardson were appointed. By-and-by sex will probably tell against a man's appointment.

May 24th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

The Requirements of the University of Edinburgh.

THE Court of the University of Edinburgh had recently before them a report from the committee appointed to draw up a statement and appeal for funds for University purposes, in which it was stated that the funds required for the equipment of the Public Health Laboratory and for the preparation of a library catalogue had been provided, the former by the generosity of Mr. John Usher of Norton and the latter from the munificent bequests of the late Sir William Fraser. For the library, however, funds are still urgently required. The most pressing wants are: (1) a fire-proof room for the storage of rare books of the fifteenth and early sixteenth centuries and the MSS., which number about 7000; (2) a fund, amounting at the lowest figure to £25,000, for the purchase of scientific and literary journals and of larger works of reference; and (3) extensive structural changes and new book-cases, costing at least £5000, or, what would be much more desirable, a new and suitable building for the library. Another direction in which it would soon be necessary to spend money was the establishment of the Physical Laboratory. The construction and equipment of this laboratory would be a large undertaking, but it was one which would have soon to be faced if the scientific reputation of the University were to be maintained.

Chair of Physiology in Edinburgh University.

The complete list of candidates for the vacant chair of physiology in the University of Edinburgh is as follows: Dr. Wace Carlier, Lecturer on Experimental Physiology and Histology and senior assistant to the late professor of physiology, University of Edinburgh; Dr. Noel Paton, superintendent of the Research Laboratory of the Royal College of Physicians of Edinburgh, Lecturer on Physiology in the School of Medicine of the Royal Colleges, Edinburgh, &c.; Professor Reid, Professor of Physiology in University College, Dundee, St. Andrews University; Professor Schäfer, Jodrell Professor of Physiology in University College, London; Professor G. N. Stewart, Professor of Physiology and Histology in the Medical School of the Western Reserve University, Cleveland, Ohio; Professor Stirling, Brackenbury Professor of Physiology and Histology, Owens College, Manchester; and Professor Anderson Stuart, Professor of Physiology in the University of Sydney.

Tuberculosis Congress in Berlin.

Professor Sir Thomas Grainger Stewart goes to Berlin to attend the Congress on the Prevention of Tuberculosis as an honorary member and as the delegate of the Senatus Academicus of the University of Edinburgh. Bailie Pollard goes to represent the city of Edinburgh.

Royal College of Surgeons of Edinburgh.

The following gentlemen, after having passed the requisite examination, were on May 16th elected ordinary Fellows of the Royal College of Surgeons of Edinburgh: John Basil Hall, M.B., B.C. Cantab., M.R.C.S. Eng., L.R.C.P. Lond., Bradford; Charles William Donald, M.B., C.M. Edin., Edinburgh; Edward William Scott Carmichael, M.B., C.M. Edin., Edinburgh; Robert Black Purves, M.B., C.M. Edin, Edinburgh; John Harley Gough, M.R.C.S. Eng.,

L.R.C.P. Lond., Torquay; James Wilson M'Brearty, L.R.C.S. Edin., New Zealand; Wyndham Austruthers Milligan, M.B., C.M. Aberd., Edinburgh; Henry John Forbes Simson, M.B., C.M. Edin., Edinburgh; and Charles Benjamin Rossiter, L.R.C.P. & S. Edin., Amlwch, Anglesey.

Edinburgh Royal Infirmary.

At the weekly meeting of the Managers of the Edinburgh Royal Infirmary, held on May 22nd, it was agreed to open Blair House, the nurses' rest at Colinton, on June 1st, but it was stated that the opening would be quite informal.

Montrose Asylum.

The new house for private patients in connexion with Montrose Asylum was opened on May 22nd. Carnegie House, as it is designated, was commenced four years ago and consists of three blocks. The central block is occupied by a large hall on the ground floor and a dining-hall and the administrative department on the first floor. The east block is intended to accommodate male patients and the west block is for female patients. The estimated cost was £16,500, but about £30,000 have been expended on the building. It will accommodate 80 patients. The building is heated by the Sturtevant system with fires in winter time, and the drainage and sanitary arrangements are excellent. The architect was Mr. W. Kelly of Aberdeen.

May 23rd.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Irish Medical Association.

THE Council of the Irish Medical Association met in the Royal College of Surgeons in Ireland on May 17th to consider the report to be submitted to the annual meeting arranged to be held on June 20th, not in Dublin as heretofore but in the Examination Hall, Queen's College, Cork. The President and Council of the Queen's College will give an entertainment to their visitors and the annual dinner will be held at the Royal Victoria Hotel. The members of the medical profession in Cork will also entertain the members of the Association by an excursion to view the harbour and to witness the regatta at Queenstown.

Memorial to the late Dr. Haughton.

The Rev. Dr. Haughton, though a highly qualified member of the medical profession never engaged in medical practice, yet was widely known among physicians as well as among the general scientific public. On the occasion of the opening of the memorial building recently erected in the Zoological Gardens, Dublin, which took place on May 19th, addresses were delivered by His Excellency the Lord Lieutenant, Field-Marshal Lord Roberts, V.C., K.P., Sir Robert Ball, and others. The ceremonial was attended by a very large and representative audience.

Limavady Board of Guardians.

A curious point came before the Limavady Board of Guardians at their weekly meeting on May 22nd, when Dr. Watson, the medical officer of the workhouse, reported that by the instructions of the Local Government Board for Ireland a number of old, weak, and debilitated people had been getting extras such as eggs, milk, or tea although not under any treatment or in the hospital. He believed that he had no power to order anything for them unless they were in the hospital. He wished the guardians to ask the Local Government Board if these extras were to be discontinued or, if they were to be continued, who was to order them. He had ordered none for the next week until he received instructions. The board of guardians ordered the extras, but Dr. Watson's point is an important one. Can extras be ordered without those receiving them being in hospital? The Local Government Board auditor will probably when he examines the accounts settle the matter. The Local Government Board wrote in reference to the scale of fees to be charged by the dispensary medical officers to persons of limited means that under Article 7 of the dispensary rules the scale of fees was intended when furnished to guide the guardians and wardens in issuing tickets and enabling them to determine whether medical relief should be given under the Medical Charities Act or whether the applicant, having regard to the doctor's charges, could not afford to pay for medicine and advice. It appeared to the Local Government Board that the scale submitted should state specifically whether the medical officers' charges were 7*s.* 6*d.* or 5*s.*; a case and that the words "according to the circumstances of the patients" should be omitted. It was decided to send a copy of this letter to each of the dispensary doctors.

Newry Urban Council.

Mr. W. H. Smartt, medical officer of health, having reported the occurrence of cases of fever in the urban district the Secretary to the Local Government Board for Ireland has requested a reply as to what steps have been taken to remedy the sanitary defects mentioned by Mr. Smartt in his report. It seems that nine cases of fever have been reported. It was decided that if the plans to remedy the buildings where the epidemic occurred were not approved of the guardians would prosecute.

Belfast Royal Hospital.

At a meeting of the staff of the Belfast Royal Hospital held on May 23rd Dr. J. A. Lindsay was elected secretary in place of Professor Whitla resigned. Mr. West was awarded the Coulter exhibition. Professor Byers, in the name, and at the request, of the staff expressed to the chairman, Professor Cuming, the very great pleasure with which they all welcomed him back again after his enforced absence and hoped that he might long be spared to act as their permanent chairman. They regarded him not merely as head of the profession, but personally they were nearly all his old pupils, and his constant attitude towards them had been that of "guide, philosopher, and friend." In reply Professor Cuming thanked his colleagues very warmly for the kind expression of their feelings towards him.

Successes of Queen's College (Cork) Students at the Royal University Examinations.

At the recent examinations for the degrees of M.B., B.Ch., B.A.O., held by the Royal University, out of about 40 candidates who presented themselves only 17 were successful. The total "mortality" was therefore well over 50 per cent. Nine of the candidates were educated in Cork and seven out of the nine were successful. Three of the seven obtained "upper pass."

Queen's College (Cork) Athletic Sports.

The Queen's College (Cork) Athletic Club held their annual meeting on May 13th. The contests were good and though the weather was very unfavourable there was a large gathering to witness the events. A cycle polo match, the first played in the South of Ireland, excited considerable attention. The club dinner was held in the evening, amongst the guests being Professor Hartog, Professor Charles, Professor Corby, and Professor Bergin. In the absence of the president of the club Professor Corby presided. One of the students proposed the toast of "The Professors of the College." Professor Charles replied in a felicitous speech and referred to the mutual advantages of the professors and students meeting socially. Several songs were contributed by the students and a very enjoyable evening was spent.

May 23rd.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Iodine in Sea Water.

AT the sitting of the Academy of Sciences held on May 1st M. Armand Gautier said that the general opinion was that iodine existed in sea water in the form of alkaline iodides or earthy salts. On the contrary, he had found that sea water taken some distance out and either from the surface or at no very great depth contained no inorganic iodides. The whole amount of iodine, with the exception of a very insignificant trace, existed as bodies of organic composition. A portion of this organic compound is fixed in organic bodies, such as zoöglœæ, algæ, sponges which live on the surface or a little below it and make up the "plankton" of the high seas. Four-fifths of the iodine of the sea is composed of soluble organic bodies; they are nitrogenised and rich in manganese and phosphorus. They accumulate along the shore under the forms of masses of foam, containing zoöglœa, and diatomaceæ. They are charged with iodine and being also partly

mucilaginous adhere to the skin of bathers who thus absorb the iodine.

The Suicide of Dr. Laforest.

Further details are to hand concerning the recent suicide of Dr. Laforest who was accused of certain offences at a home for destitute children. Hearing that he was to be prosecuted he went to Paris on a Sunday to give himself up, but finding the Palais de Justice shut he returned home and dreading the scandal which would attach to his name even if he were acquitted he determined to commit suicide. After talking the matter over with his wife he bade farewell to her and his two children. He then went into his consulting-room, stopped up all the windows and the door, turned on the gas, and lay down on the sofa. While awaiting death he continued to converse with his wife who in her turn, from the other side of the door, besought him not to lose courage. When she could no longer hear him speaking and concluded by a dull thud that she heard that he had rolled off the sofa on to the floor she went to fetch the police. When they arrived two hours later and forced the door they found nothing but a corpse. The wife has been arrested as an accessory to his murder.

Gunshot Wounds of the Chest.

At the meeting of the Academy of Medicine held on May 16th M. Lucas Championnière showed a patient who had been under his care and who had completely recovered from a revolver shot fired point-blank full in the chest. The patient was brought to the hospital in a very restless state with an irregular pulse and frequent threatenings of syncope. On the day after a large zone of dulness appeared in the chest. The treatment consisted in immobilisation and rest, a restricted diet, and purgatives as soon as the patient could bear them. A radiograph disclosed the fact that the ball, having traversed the chest from above downwards, had lodged in front of the twelfth rib; there it still remained. M. Lucas Championnière compared with this case another which had been under his care some eight years ago. It was that of a young man who had been wounded at the apex of the right lung by a broken foil and who rapidly recovered by being kept perfectly at rest. The skilful surgeon of the Hôtel Dieu is of opinion that in the immense majority of penetrating wounds of the chest non-interference should be the rule, being the exact contrary to what obtains with regard to wounds of the abdomen, looking at the probable outcome of the two conditions. The patient should be kept absolutely at rest and even a slight movement, as, for instance, to practise auscultation, may be fatal. The fundamental principles of treatment in penetrating wounds of the chest are as follows. If possible avoid moving the patient and immobilise him on the scene of the accident. All conversation must be avoided; all drink must only be given in small quantities and then cold if hæmoptysis should continue; the bowels must be kept well open if the patient can bear it; and the diet should be confined to liquids for a long time. Injections of artificial serum in small but repeated doses are useful, and the pain and restlessness can be controlled by injections of morphia.

Paying Patients in the Hospitals.

The governing body of the Assistance Publique has again been discussing this delicate question. It had already decided that there were two classes of patients in easy circumstances who might be admitted into the hospitals—namely, strangers and foreigners passing through Paris who could not be treated in a hotel and patients afflicted with infectious diseases. The council has now added a third class—that is to say, those inhabiting a commune who have to undergo a severe operation but cannot be operated on in their own homes or in a *maison de santé*. Such patients will have to pay a much higher fee than merely the net cost of their maintenance. Unfortunately, the council laid down no regulations as to honoraria to the surgeons who will thus have to operate gratuitously on rich patients filling their beds who are known to be able to pay. The council considered a demand made by the mutual aid societies that their members should have a certain number of hospital beds reserved for them, and this, too, gratuitously, without the society having to pay anything for maintenance. The council, however, refused to grant this demand on the ground that it would be an undue favouring of members of friendly societies and would press very hardly on the really poor.

New Professors.

The chair of Historical Medicine at the Faculty of Medicine at Paris which has been vacant for six months has just been filled by an election which took place on May 18th. There were three candidates, all neurologists and former pupils of Charcot—M. Brissaut, M. Pierre Marie, and M. Gilbert Ballet. M. Brissaut was unanimously elected. The new professor is well known as one of the most gifted and brilliant writers of the medical faculty. Although he has not directly interested himself in the history of medicine he has written a little book upon popular terms for illnesses and matters having to do with medicine and their origin which is a veritable *chef d'œuvre*. The Municipal Council has not yet given its decision as to who is to occupy the new chairs of Gynæcology and Pædiatrics which have just been founded. To the names of those actually in the field—namely, Dr. Richelot, Dr. Pozzi, and Dr. Hartmann—must be added that of Dr. Doyen.

May 23rd.

ROME.

(FROM OUR OWN CORRESPONDENT.)

Centenary of Volta's Invention of the Pile.

THAT "the future belongs to electricity" was largely in evidence on May 20th, when His Majesty King Humbert opened the "Electric World's Show" at Como in honour of the invention of the pile by Alessandro Volta in the May of 1799. No effort has been wanting on the part of the great industrial centres of the Alta Italia or on that of the King's Government to heighten its attractions and to ensure its success, and when I mention its 11 galleries covering an area of 20,000 square metres and accommodating the specimen work of 1000 exhibitors, many of them foreign and nearly all of them of world-wide fame, I may absolve myself, as the Scottish law-phrase runs, from "condescending on particulars." In these columns [1] I drew attention to the medical interest of the exhibition—an interest dating from Galvani, Volta's great predecessor, and carried on through special therapeutic developments by Nobili, and still further and more widely by Matteucci, till "electricity in its application to the healing art" may as truly be called an "Italian contribution," as chemistry has been claimed by Professor Wurz as a "French science." There are other attractions to Como at this season especially, but these fall into the second line in presence of this wondrous display of human contrivance and energy, bequeathed by the century now nearing its end to its imminent successor and heir.

Protection of Women and Children in Factories and Mines.

The deteriorating physique of the Italian labouring poor is traced to many causes—not least to the employment of women and children in works or industries unsuited to their age or sex. Not an hour too soon a Bill has been introduced into Parliament for the prevention of this abuse. It is now before me and a selection from its main provisions will indicate its salutary tenour:—1. No woman and no child under 15 years of age shall be employed in factories served by more than 10 hands or provided with a "motor" or in excavations or in mines without authorisation of the Prefect acting on medical advice as to the health and capacity of the said woman or child. 2. By Royal Decree, inspired by the Consiglio Superiore di Sanità and by the Consiglio dell' Industria, will be determined the dangerous and unhealthy works forbidden to children of both sexes under 15 years of age or to women in their minority, and there will also be determined those works in which they may be employed under specified conditions of age, including observance of a special time-table of daily work and of technico-hygienic precautions also specified. 3. Children under 10 years of age shall be absolutely excluded from serving in industrial establishments; those under 14 years of age shall equally be excluded from work underground in excavations and mines and those under 12 years of age from work above ground. 4. Women in their minority shall be excluded from underground service. 5. Night-work carried on in industrial establishments, in excavations, and in mines is forbidden to children of both sexes who have not completed their fifteenth year and to women in their minority who when the Bill shall have become law are not found already employed. 6. Children of both sexes

[1] THE LANCET, Feb. 25th, 1899, p. 534, "The Mechanism of Electro-therapeutics."

between 10 and 12 years of age shall not be kept at work for more than six hours out of the 24 and children from 12 to 15 years of age and women in their minority for not more than 12 hours out of the 24. Such work must be interrupted by one hour's relaxation when it lasts less than eight hours and by two hours' relaxation when it lasts longer. 7. To children up to 15 years of age and to women in their minority must be allowed 24 hours' consecutive relaxation per week and women in the puerperal state cannot be employed at an earlier period than at least 14 days after parturition. We have lately had a reconstruction of the Cabinet which almost amounts to a change of Ministry. Fortunately the above salutary Bill will not be wrecked by that "solution of continuity" (as the older surgeons expressed it), but like the great measure of University Reform carried through its second reading by the Minister of Public Instruction may be expected to become law before the session is much older.

"Phospho-carnic Acid in the Muscles of the Fasting Subject."

The Reale Accademia di Medicina of Turin, mainly through Professor Mosso, has signalised itself by its contribution to the "physiology and pathology of nutrition." Your readers will be interested in the latest and not the least striking accession to these—a memoir on the above-mentioned theme by Professor Mosso's *protégé*, Dr. G. Jarozzi. It will be found in the "Atti" of the Accademia.

May 22nd.

NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

The Bureau of Animal Industry.

THE work of the Bureau of Animal Industry of the Department of Agriculture in suppressing and preventing diseases of animals has grown to be of great importance The bureau now inspects all importations of stock animals and annually refuses to accept many diseased animals shipped from Europe. The chief of the bureau has recommended that horses should be included in the list, there being no reason why they should be exempt as they are able to carry contagious diseases as well as other stock. The bureau's work in demonstrating the efficacy of a serum cure for hog cholera has attracted much attention in various parts of the country and has developed some scepticism. The operations of the bureau have now been carried on for two full seasons and the results are conclusive. The next step is to convince the Legislature in some of the hog-raising States of the advisability of taking up the treatment for the farmers of their respective States and of having arrangements made to supply the serum to those who wish to try it. In such cases the Department of Agriculture stands ready to lend its aid and to contribute its knowledge and experience in the preparation and administration of the serum. The serum used is a combined serum intended to prevent or cure either hog cholera or swine plague. It is prepared by gradually inoculating a horse or other subject with the blood of a cholera-diseased hog until it becomes immune, when its blood is drawn off, the clot is extracted, and the remaining serum is used in hypodermic injections against these two diseases. It is injected into the blood of the diseased hog and usually cures it. The percentage of cures during the last two years of experiment has been about 85, whereas in untreated herds attacked by the diseases the percentage of deaths is usually about 85. Another good work of the bureau is the treating of black-leg among cattle. This disease affects the young stock in herds, killing from 10 to 20 per cent. where it obtains a foothold. The bureau's treatment for this disease is inoculation and losses are diminished to 1 per cent. The terrible disease of cattle called pleuro-pneumonia, which threatened the entire cattle industry of the United States and subjected all imported cattle to suspicion, has been entirely eradicated by the bureau's efforts. In 1887 the bureau began work on this disease and found a chaotic state of affairs in cattle-raising by reason of it. Since 1892 not a single case of pleuro-pneumonia of cattle has been discovered in the United States. A problem now interesting the bureau is the Texas fever of cattle. When it began work in connexion with this disease almost nothing was known concerning its origin. It has been discovered to consist in a micro-organism which feeds upon the red corpuscles of the blood and which is carried from one animal to another by the southern cattle tick. If these ticks can be eradicated the disease is not transmitted. Dips have therefore been used to kill the ticks and quarantine regulations have been established by the bureau, so that Texas fever can now be said to be under control. No animal disease causes greater loss annually than sheep-scab. For years the greatest mystery enveloped this trouble. It was not known whether it resulted from blood disorders or from outside influences, but the Bureau of Animal Industry comes out with a clear statement that investigation shows that the disease is simply caused by a parasite which eats into the flesh of the sheep, that it can be easily killed by a home-made "dip," and that it is so easy of eradication that there is really little excuse for its being found in any flock.

The Health of Havana.

Among the most gratifying of the official reports which reach the Government are those from the United States health officers in Cuba which vindicate the belief so frequently and emphatically expressed by Americans in former years that Cuba would be a veritable garden spot of the tropics and a salubrious abode if Spanish rule were ended. The vile conditions of the cities of the island, breeding diseases of the malignant type, are now, however, being rapidly supplanted by cleanliness and the improvement from a sanitary view is remarkable as well as pleasing. The deaths from all causes continue to decrease every week and the present mortality is the lowest recorded for many years.

American Merchant Seamen.

The new Act relating to American merchant seamen is a comprehensive measure of 26 sections and is the result of four years of hearings and investigations. It establishes a scale of provisions for American merchant seamen much higher than that of any other nation and provides ampler forecastle accommodations and prompter payment of wages. If any person knowingly sends or attempts to send or is a party to sending or attempting to send an American ship to sea in the foreign or coastwise trade in such an unworthy state that the life of any person is likely to be thereby endangered he shall in respect of each offence be guilty of a misdemeanour and shall be punished by a fine not to exceed $1000, or by imprisonment not to exceed five years, or both, at the discretion of the court. Flogging and all other forms of corporal punishment are prohibited on board any vessel, and no form of corporal punishment on board any vessel shall be deemed justifiable, and any master or other officer thereof who shall violate these provisions or either of them shall be deemed guilty of a misdemeanour, punishable by imprisonment for a term of not less than three months and not more than two years. The amount of allotments of wages is materially reduced and seamen are not permitted to sign away their wages in advance in this country except by express approval of a shipping commissioner or foreign consul if the vessel is foreign. Imprisonment for desertion in American ports is abolished and it is not allowed in foreign ports not far distant in the case of crews of American vessels. More liberal provision is made for the relief of distressed American seamen abroad.

Trained Nurses Celebrate.

800 trained nurses drawn from 20 training schools in Greater New York lately met in the ball-room of the Waldorf-Astoria to celebrate the twenty-fifth anniversary of the founding of the Bellevue Training School. These young women, dressed in the distinctive garb of their vocation, represented the increase in their numbers in the quarter of a century which has elapsed since the first class of five nurses graduated, marking a new departure in the medical history of this country. The history of the founding of the Bellevue Training School is as follows. 25 years ago there were no trained nurses in the United States. On Jan. 26th, 1872, a number of women met to organise a committee to visit the public hospitals of the city and county of New York and to report upon their condition to the State Board of Charities. As a result of this meeting 60 among the most intelligent women of the city daily passed hours in the wards of Bellevue carefully studying its conditions and consulting the highest hospital authorities. As a consequence of this investigation it was decided that no permanent reform could be accomplished under the then existing system of nursing. The nurses were ignorant of the most elementary principles of the art of

nursing and the larger number were brought from Blackwell's Island, where they had been sent as vagrants or paupers or sometimes prisoners, and many could neither read nor write. Having decided that a reform in the nursing was imperative as a preliminary to reform in the general system a sub-committee was appointed to plan for a training school for nurses. The project was received with enthusiasm and $22,385 were contributed to start the school. Through the influence of one of the Commissioners of the Board of Charities a reluctant consent was obtained from the board to allow nursing in five wards in Bellevue, for which the committee was to defray all the expense beyond that paid under the old system. In March a house was hired near the hospital for a home for the nurses and the committee engaged to take charge of the wards on May 1st. The school started its career amid a good deal of opposition, but it never wavered from its high ideals, and the principles accepted from Miss Nightingale have been faithfully followed, not only at Bellevue, but by all the schools subsequently founded up to the present time.

The Charities of the State of New York.

The New York State Board of Charities reports that the statistics covering the fiscal year, collected by the board from the officers of charitable institutions, show that the public and private charities in this State which are subject to the supervision of, and which report to, the board had an annual income exceeding $23,000,000; that they expended nearly $22,000,000; and owned real and personal property conservatively estimated to be worth $103,000,000; also that within the year in question they administered charitable assistance of various kinds, more or less costly, to a great army reported as numbering over 2,500,000 beneficiaries. These figures indicate the gigantic extent to which the charities of New York have grown and emphasise the necessity for the best and wisest methods of charitable administration in order that the poor may be most suitably relieved, while pauperism and its attendant evils, which constitute a dangerous and hurtful drain upon the industrial energy of the State, are diminished to the fullest extent practicable.

May 18th.

Medical News.

SOCIETY OF APOTHECARIES OF LONDON.—In May the following candidates passed in the subjects indicated:—

Surgery.—G. H. Bedford (Section II.), Guy's Hospital; P. Cator, St. Bartholomew's Hospital; T. A. E. Fawcett (Section II.), Leeds; A. Killick (Sections I. and II.), Cambridge and London Hospital; D. V. Lowndes (Section I.), Westminster Hospital; A. Orme (Section I.), London Hospital; V. S. Partridge (Section I.), Charing-cross Hospital; W. Sisam (Section II.), Birmingham; J. M. Twentyman, Cambridge and King's College Hospital; and R. Le G. Worsley (Section II.), St. George's Hospital and Durham.

Medicine.—E. L. D. Dewdney, King's College Hospital; R. F. Ellery (Section I.), St. Bartholomew's Hospital; T. A. E. Fawcett (Section II.), Leeds; A. Orme (Section I.), London Hospital; O. C. Sibley, Middlesex Hospital; W. Sisam (Section II.), Birmingham; and H. E. Weston (Section I.), St. George's Hospital.

Forensic Medicine.—E. L. D. Dewdney, King's College Hospital; S. H. Longhurst, Guy's Hospital; A. Orme, London Hospital; O. C. Sibley, Middlesex Hospital; and H. E. Weston, St. George's Hospital.

Midwifery.—T. Burdekin, University College Hospital; A. F. Carlyon, Middlesex Hospital; W. J. H. Hepworth, London Hospital; T. E. Holman, Guy's Hospital; H. N. Horton, Middlesex Hospital; A. Killick, Cambridge and London Hospital; W. Sisam, Birmingham; and F. J. Waldmeier, London Hospital.

The diploma of the Society was granted to the following candidates entitling them to practise in medicine, surgery, and midwifery: E. L. D. Dewdney, T. A. E. Fawcett, S. H. Longhurst, W. Sisam, J. M. Twentyman, and R. Le G. Worsley.

FOREIGN UNIVERSITY INTELLIGENCE.—*Basle:* Dr. Otto Hildebrand of Berlin has been appointed to succeed the late Dr. Socins in the chair of Surgery. He is editor of the *Jahresberichte über die Fortschritte der Chirurgie.*—*Berlin:* Dr. Bockenheimer of Würzburg has been appointed Assistant in the Institute for Infectious Diseases.—*Göttingen:* Dr. Erwin von Esmarch of Königsberg has been appointed Professor of Hygiene in succession to the late Dr. Wolffhügel.—*Lemberg:* Dr. Franz Kosminski has been recognised as *privat-docent* of Midwifery and Gynæcology.—*Munich:* Dr. Gudden has declined the invitation to succeed to Professor Rosenberger's chair of Surgery in Würzburg. Dr. E. Weiland has been recognised as *privat-docent* of Physiology.—*Prague* (*German University*): Dr. Max Sänger of Leipsic has been appointed Professor of Midwifery and Gynæcology.—*Vienna:* Dr. Gustav Singer has been recognised as *privat-docent* in Internal Medicine.

ROYAL COLLEGE OF SURGEONS IN IRELAND: FELLOWSHIP EXAMINATION.—The following gentlemen having passed the necessary examination have been admitted Fellows of the College: Mr. Denis Kennedy, Mr. John Murray Redington, and Mr. Lawder Thomas Whelan.—The following gentlemen have passed the primary part of the examinations for the Fellowship: Mr. John F. L. Keegan, Mr. Thomas J. Nicholl, Mr. William G. T. Posnett, and Mr. John White.

ROYAL ALBERT HOSPITAL, DEVONPORT.—A meeting of the subscribers of this institution was held on May 15th to consider a proposal for enlarging and improving the hospital. It was eventually decided to erect a new nurses' home at a cost of £2200 and to provide isolation wards, consulting-rooms for the medical staff, &c., at an estimated expenditure of about £1500. Sir John Jackson has promised £500 of this sum provided that £1500 more be raised within 12 months.

WEST CORNWALL WOMEN'S HOSPITAL, REDRUTH.—The children's ward recently added to the West Cornwall Women's Hospital, Redruth, was formally opened by Mr. Passmore Edwards on May 17th. The ward is to commemorate the Queen's Diamond Jubilee. The cost of the building has been £508, of which sum Mr. Edwards has contributed £478. The furnishing of the ward amounted to £200 and this amount was given by Messrs. S. and T. Trounson.

BIRKENHEAD MEDICAL SOCIETY.—The annual meeting of this society was held on May 5th, Mr. H. Nazeby Harrington, President, being in the chair. The annual report and treasurer's statement of accounts were read and passed. The following office-bearers were elected for the ensuing year:—President: Mr. H. Nazeby Harrington. Vice-President: Dr. Joseph Blood. Treasurer: Dr. James Pinkerton. Secretary: Dr. W. Leask, Prenton-road West. Librarian: Mr. S. Wilkinson. Council: Mr. A. H. Butcher, Dr. W. R. Floyd, Mr. J. H. Fardon, Dr. R. O. Morris, and Dr. L. D. Temple. The first monthly meeting of the new session will be held in October.

UNIVERSITY OF CAMBRIDGE.—In connexion with the jubilee of Professor Sir George Stokes on June 2nd the honorary degree of Doctor of Science is to be conferred on the following distinguished physicists and mathematicians: Professor Cornu, Professor Darboux, Professor Kohlrausch, Professor Michelson, Professor Mittag-Leffler, Professor Quincke, and Professor Voigt.—The following have been appointed examiners for medical and surgical degrees. Medicine: Dr. Lees, Dr. Macalister, Dr. S. Martin, and Dr. Mitchell Bruce. Surgery: Mr. Pitts, Professor Chiene, Professor Watson Cheyne, and Mr. Golding-Bird. Midwifery: Dr. Cullingworth and Dr. Barbour.—A contribution of £1000 has been made from the funds of the State Medicine Syndicate towards the cost of the new buildings for the Medical School and a grant of £50 in aid of the course of instruction in bacteriology provided for candidates for the Diploma in Public Health.—Mr. W. Bateson will during next year deliver the course of lectures in Zoology as deputy for Professor Newton.

LITERARY INTELLIGENCE.—The following are some of the announcements in Messrs. Williams and Norgate's scientific book circular for May. "Die Spiele der Menschen" (Sports and Games), by K. Groos.—"Allgemeine Biologie." II. Vererbung und Entwickelung (General Biology. Second volume. Inheritance and Evolution), by Professor M. Kassowitz.—"Die Leitungsbahnen im Gehirn und Rückenmark" (Nerve Tracts of the Brain and Spinal Cord), by Professor W. von Bechterew.—"Traité des Maladies de l'Enfance" (Diseases of Children), by Dr. Jules Comby.—"Atlas de Microbiologie," by Dr. E. Macé.—"Ueber die Einbettung des menschlichen Eies und das früheste bisher bekannte menschliche Placentationsstadium" (The Embedding of the Human Ovum and the Earliest Stage hitherto known of the Human Placenta), by Dr. H. Peters.—"Traité de Médecine," by Dr. Bouchard and Dr. Brissaud, second volume, Fevers.—"Das Füllen der Zähne mit Amalgam" (Amalgam Stoppings in Dentistry), by A. Witzel.—"Handbuch der Fleischbeschau" (Manual of Meat Inspection for Veterinary Surgeons, Medical Men, and Magistrates), by R. Ostertag.

TYPHOID FEVER IN SOUTH WALES.—At the meeting of the Llangyfelach District Council held on May 16th Dr. Trafford Mitchell made a special report upon the outbreak of typhoid fever at Pontardulais (Glamorganshire). He stated that there were 20 cases occurring in 12 hours. The disease was imported from Carmarthenshire and its spread was attributed to a defective water-supply and the absence of a proper drainage system. Dr. Mitchell added that these defective sanitary arrangements had been pointed out in annual reports by his predecessor and by himself.

BRITISH MEDICAL TEMPERANCE ASSOCIATION.—The twenty-third annual meeting of this association was held on May 18th at the London Temperance Hospital, the president, Professor Sims Woodhead, being in the chair. The honorary secretary, Dr. Ridge, read the annual report which showed a considerable increase during the year, the members now being 484, the student associates 495, and the associates (laymen) 4. Following the annual business meeting the ceremony of unveiling a large brass tablet to the memory of the late President, Sir B. W. Richardson, was performed by Mrs. Sims Woodhead. Speeches were delivered by Professor Woodhead, Dr. T. Morton, Rev. Canon Barker, Mr. A. Y. Nutt, Alderman Strong, Dr. Cooper Key, Dr. Ridge, Surgeon-Major Poole, and Rev. Dawson Burns. The inscription on the tablet, which is embellished with a good likeness of Sir Benjamin Richardson in profile, is as follows: "In memory of Sir Benjamin Ward Richardson, Knt., M.D., LL.D., F.R.S., F.R.C.P., who died on Nov. 21st, 1896; for 17 years the honoured and esteemed President of the British Medical Temperance Association and for four years Senior Physician to this hospital. This tablet is placed here by members of the association with the sympathy and by the kind permission of the Board of the London Temperance Hospital in affectionate remembrance of his invaluable services to the cause of temperance." Letters regretting their inability to attend were received from the Presidents of the Royal Colleges of Physicians of London and Surgeons of England, from Sir Richard Thorne, Rev. Dr. Adler, the Chief Rabbi, Professor McKendrick, Mr. V. Horsley, Professor Simpson, and others.

Parliamentary Intelligence.

HOUSE OF LORDS.

THURSDAY, MAY 18TH.

Oysters Bill.

LORD HARRIS at this sitting moved the second reading of the Oysters Bill. He said the measure was intended to be another step in the legislative process as exhibited in the Contagious Diseases (Animals) Act and other Acts for securing more sanitary surroundings for creatures designed for the food of man. There were several Acts of Parliament which applied to oysters, in particular the Fisheries Act of 1877 which empowered the Board of Trade to prohibit the dredging of oysters on certain banks. The county council or the Local Government Board were empowered to have the water examined in which oysters were laid in order to see whether there were any insanitary conditions affecting them. The causes which rendered it necessary in the opinion of the Government to bring forward this Bill were primarily the grave suspicions which had attached to the oyster of late years. As long ago as 1880 Sir Charles Cameron, the medical officer of health of Dublin, read a paper on the possible relation of typhoid fever to the consumption of oysters and the risk of sewage contamination to oysters in Dublin Bay. In 1893 an outbreak of cholera in this country raised a very strong suspicion about oysters and at that time official representations were made to the Local Government Board as to the condition and storing of oysters sent to the market. In 1894 the suspicion was not confined to this country. It spread to the United States, while in France, in consequence of an outbreak of enteric fever in a small village near the coast, inquiries were made by a medical practitioner who gave it as his opinion that the outbreak could be traced undoubtedly to the consumption of some oysters brought there. In 1898 an outbreak in Essex induced the Local Government Board to cause an inquiry to be made by Dr. Buchanan who was satisfied that the outbreak was due to oysters which had been taken up from certain layers at a noted town on the Essex coast. In consequence of these suspicions and some representations made by medical men, as well as from the pressure brought to bear by local authorities and dealers in oysters whose trade was seriously affected by these suspicions, the Local Government Board determined in 1895 that its medical department should undertake a comprehensive inquiry into the circumstances in which the oyster was cultivated and stored around our coast. Dr. Bulstrode reported that the oyster ponds in several places were in special danger of sewage pollution, and as the result of his inquiry a bacteriological investigation was undertaken by Dr. Klein. He, after an exhaustive series of experiments, found that oysters kept for a time in water previously infected with the typhoid bacillus harboured the bacillus for four, nine, or 16 days after removal and that the oyster nevertheless seemed perfectly fresh and good, although the bacillus recovered from it had all the characteristics of the typical typhoid bacillus used for the experiment. The medical officer of health of Brighton had reported that cases of enteric fever had resulted from the consumption of oysters produced at one of the places dealt with in Dr. Bulstrode's report. Sir William Broadbent and other great authorities in this and other countries had declared their conviction as to the communication of typhoid fever by oyster consumption, and the Local Government Board had been urged by a powerful deputation representative of 28 of the largest towns in the kingdom to introduce some legislation on the subject. The evidence in favour of legislation was overwhelming and many of those engaged in the oyster trade would welcome it as tending to remove suspicion from their beds. The Bill empowered the county councils to test the water in which oysters were laid and to prohibit the removal of oysters for 10 days if they discovered contamination. The owner had an appeal to the Local Government Board and the Local Government Board had power to act if the county council failed to do so. He had no wish to hurry the Bill through, but he hoped that their lordships would pass the second reading now and time would be allowed for the consideration of its provisions before the Committee stage.—The Bill was read a second time without debate.

HOUSE OF COMMONS.

THURSDAY, MAY 18TH.

Medical Men and the Compensation Act.

Mr. PICKARD asked the Home Secretary whether he was aware that among other medical officers of indemnity societies one Dr. Macphail of Barnsley especially assumed that he had power under the Compensation Act, 1897, to insist upon patients submitting themselves for examination at his office or surgery at Barnsley, and in cases where workmen had been injured wrote to them that they must so attend on certain days and at certain times; whether this or any other medical man could under the Act order any injured workman to attend his office or surgery for the purpose of examination seeing that he was simply an insurance or an indemnity association officer; and if such action on the part of a medical officer was a violation of the Act what steps he would take to prevent such practices in the future.—Sir MATTHEW WHITE RIDLEY replied: I have not heard of the case referred to. I presume that the hon. Member is referring to cases in which a workman has given notice of an accident or is in receipt of a weekly payment. In these cases the Act requires a workman to "submit himself for examination" by a medical practitioner provided by the employer or by an insurance society. It is impossible for me to lay down any general rule as to when and how this obligation should be fulfilled and I have no power to interfere in the matter.

Feeble-minded Children.

Sir JOHN GORST, in reply to Mr. ERNEST FLOWER, said that the Bil dealing with feeble-minded children was in an advanced stage of preparation, but he was unable to say when it would be introduced.

FRIDAY, MAY 19TH.

Tuberculosis in Cattle.

Mr. CHANNING asked the President of the Local Government Board whether he was aware that there was now no proper inspection of the carcasses of imported cattle, of which about 3000 were weekly slaughtered at Deptford and large numbers elsewhere; and whether, having regard to the large proportion of tuberculosis found to exist in cattle slaughtered and inspected for the detection of pleuro-pneumonia, he would arrange for an adequate staff to examine the carcasses immediately after slaughter before removal of the offal.—Mr. CHAPLIN said he had made inquiries concerning the foreign cattle market at Deptford which was the only one specifically referred to in the question and he was informed that in addition to the inspection of live animals by two veterinary inspectors appointed by the Board of Agriculture there was a close inspection of the carcasses. This latter inspection was carried out by an inspector specially appointed by the Corporation of London who devoted his whole time to the duty and who acted under the supervision of a veterinary inspector of the corporation and the superintendent of the market. He understood that the cases of tuberculosis in that market were extremely rare—only two had occurred in the last 12 months.

Metropolitan Water Companies Bill.

The amendments made in the Bill by the House of Lords were brought up and agreed to without debate. The measure now awaits the Royal Assent before becoming law.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, for publication in the next number.*

ALCOCK, G. H., L.R.C.P Lond., M.R.C.S., has been appointed Medical Officer for the Pinchbeck Sanitary District of the Spalding Union.

BYFORD, W. F., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the No. 1 Sanitary District af the Ruthin Union, vice W. D. Jones, resigned.

CHALDECOTT, J. HENRY, L.R.C.P. Lond., F.F.P.S. Glasg., has been appointed Honorary Anæsthetist to St. John's Hospital for Diseases of the Skin, London.

CHILCOTT, E. S., L.R.C.P. Lond., M.R.C.S., has been re-appointed Medical Officer of Health by the Itchen Urban District Council.

CROWLEY, RALPH H., M.D. Lond., M.R.C.P., M.R.C.S., has been appointed Workhouse Medical Officer and Visiting Physician to the Hospital by the Bradford Board of Guardians.

DAVEY, S., M.R.C.S., L.R.C.P., D.P.H. Lond., has been appointed Medical Officer of Health to the Urban District Council of Caterham.

FEATHERSTONE, G. W. B., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Radnorshire Sanitary District of the Hay Union.

GODWIN, F. J., M.R.C.S., L.R.C.P., has been appointed House Surgeon to the Infirmary, Burton-on-Trent.

HAWKINS-AMBLER, G. A., F.R.C.S. Edin., has been appointed Assistant-Surgeon to the Liverpool Stanley Hospital.

HODSON, T. G. S., M.D. Durh., L.R.C.P. Lond., M.R.C.S., has been appointed *pro tem.* Medical Officer for the Bitterne Sanitary District of the South Stoneham Union.

JACKSON, THOS., M.D. Edin., M.R.C.S. has been appointed Medical Officer for the First Division of the Greystoke Sanitary District of the Penrith Union.

JOHNSTONE, E. R., L.R.C.S., L.R.C.P. Edin., L.F.P.S. Glasg., has been appointed an Acting Assistant Surgeon in the United States Army, ranking as a first lieutenant. He is now serving in the Philippine Islands.

MALINS, H., M.B., C.M. Edin., has been appointed Assistant Medical Officer at the Infirmary, Parish of St. Marylebone, London.

MATHEW, C. P., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Tregony Sanitary District of the Truro Union.

READ, B. T., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Odiham Sanitary District of the Hartley Wintney Union.

RUSSELL, J., M.B., C.M. Aberd., has been appointed Assistant Honorary Physician, North Staffordshire Infirmary, vice T. T. Cockill, resigned.

STONE, F. W. S., L.R.C.P., L.R.C.S. Irel., has been appointed Medical Officer for the Bilton Sanitary District of the Warmley Out-relief Union.

THOMPSON, S. R., L.R.C.P. Lond., M.R.C.S., has been re-appointed Medical Officer of the Workhouse, St. Olave's Union.

TODD, G. D., L.R.C.P. Edin., M.R.C.S., has been appointed Medical Officer for the Selby Sanitary District and the Workhouse of the Selby Union.

WARD, EDWARD, M.B., B.C., M.R.C.S., has been appointed to the Professorship of Surgery, the Yorkshire College Department of Medicine, vice Professor Mayo Robson, retired.

YONGE, EUGENE S., M.D., has been appointed Honorary Assistant Physician to the Manchester Hospital for Consumption and Diseases of the Throat, vice W. Milligan, resigned.

Vacancies.

For further Information regarding each vacancy reference should be made to the advertisement (see Index).

ASTON UNION.—Resident Assistant Medical Officer at the Workhouse, Erdington, near Birmingham. Salary £130 per annum, rising annually by £10 to a maximum of £150 per annum, with furnished apartments, rations, washing, &c. Applications to the Clerk to the Guardians, Union Offices, Vauxhall-road, Birmingham.

BATH.—EASTERN DISPENSARY.—Resident Medical Officer, Salary £130 a year, with furnished apartments, coal, gas, and domestic attendance. Applications to Colonel Eyre, Hon. Sec., Rockville, Lansdown, Bath.

BEDFORD COUNTY HOSPITAL.—House Surgeon for one year. Salary £100, with apartments, board, lodging, and washing.

BETHNAL GREEN BOARD OF GUARDIANS—Second Assistant Medical Officer at the Workhouse and Infirmary at Waterloo-road, Victoria-park, N.E., for six months. Salary at the rate of £80 per annum (payable monthly), with rations, furnished apartments, and washing and £3 per annum in lieu of beer. Applications to the Clerk to the Board, Guardians' Offices, Bishop's-road, Victoria-park, N.E.

BIRMINGHAM GENERAL DISPENSARY.—Two Resident Locum Tenens for the Staff of Resident Surgeons for about two months. Salary four guineas a week without board.

BOROUGH OF HOVE, Sussex.—Medical Officer of Health and Medical Officer for the Hospital for Infectious Diseases. Salary £450 a year, rising £25 annually to £550. Applications to the Town Clerk, Town Hall, Hove.

BURGH OF PAISLEY.—Medical Officer of Health. Salary £400 per annum. Applications to the Clerk to the Local Authority, Municipal Buildings, Paisley.

BURY INFIRMARY.—Junior House Surgeon. Salary £60, with board, residence, and attendance.

CARDIFF UNION.—Assistant Medical Officer for the Workhouse for one year. Salary £100 per annum, with rations, apartments, attendance, and washing. Subject to statutory deduction. Applications to the Clerk, Queen's Chambers, Cardiff.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria-park, E.—Second House Physician for six months. Salary at the rate of £30 per annum, with board and residence.

COUNTY ASYLUM, Gloucester.—Locum Tenens for about four months. Salary £3 3s. per week and all found (but no liquor).

CRAIGLEITH POORHOUSE AND HOSPITAL, Edinburgh.—Resident Medical Officer. Salary at the rate of £80 per annum, with board. Applications to the Clerk, Parish Council Chambers, Castle-terrace, Edinburgh.

DEVONSHIRE HOSPITAL, Buxton, Derbyshire.—Assistant House Surgeon. Salary £50 per annum, with furnished apartments, board, and washing.

EAST LONDON HOSPITAL FOR CHILDREN AND DISPENSARY FOR WOMEN, Glamis-road, Shadwell, E.—House Physician. Board and residence, &c., provided, and an honorarium of £25 granted conditionally.

EDAY, Orkney.—Medical Officer, male or female. Salary from the Parish Council £50, from the Medical Association £20. Applications to the Clerk of Parish Council, Eday.

HARRIS PARISH COUNCIL.—Medical Officer and Public Vaccinator for the Southern Division of Harris. Salary £90; other emoluments. Applications to the Clerk, Mr. Thos. Wilson, Solicitor, Lochmaddy, N.B.

HOLLOWAY SANATORIUM, Virginia Water.—Senior Assistant Medical Officer. Salary commencing at £300 per annum, with board, lodging, and washing.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, Bloomsbury, London.—Medical Registrar and Pathologist for one year. Honorarium of 50 guineas. Also Surgical Registrar for one year. Honorarium of £40. Also House Physician for six months. Unmarried. Salary £20, with board and residence in the hospital. Also Anæsthetist for one year. Honorarium £15 15s. Also Assistant Physician. Also House Surgeon for six months. Unmarried. Salary £20, with board and residence in the hospital.

LONDON COUNTY ASYLUM, Claybury, Woodford Bridge, Essex.—Junior Assistant Medical Officer, male. Salary £150 per annum, with board, furnished apartments, and washing. Applications to the Clerk of the Asylums Committee, Offices, 6, Waterloo-place, S.W.

METROPOLITAN ASYLUMS BOARD.—Assistant Medical Officer at the South-Eastern Fever Hospital, Hatfield-street, New Cross, S.E. Unmarried. Salary £160 first year, £180 second year, and £200 the third and subsequent years of service, with board, lodging, attendance, and washing. Subject to statutory deduction. Applications to the Clerk to the Board, Norfolk-street, Strand, W.C.

NORTH-EASTERN HOSPITAL FOR CHILDREN, Hackney-road, Shoreditch.—Surgeon. Also House Surgeon for six months. Salary at the rate of £50 per annum. Applications to the Secretary, City Office, 27, Clement's-lane, Lombard-street, E.C.

NORTH-WEST LONDON HOSPITAL, Kentish Town-road, N.W.—Dental Surgeon. Also Assistant Resident Medical Officer for six months. Salary at the rate of £30 per annum.

ROYAL SOUTH HANTS INFIRMARY, Southampton.—Assistant House Surgeon for six months. Honorarium £10, with board and rooms in the hospital.

SCHOOL BOARD FOR LONDON.—Medical Officer for the training-ship *Shaftesbury*, lying off Grays, Essex. Commencing salary £100 a year, which may be increased £10 annually to £150 a year. Applications to the Clerk, School Board Offices, Victoria Embankment, W.C.

SHAFTESBURY HOUSE PRIVATE ASYLUM, Formby, near Liverpool.—Junior Medical Officer. Salary £50 per annum, with board, lodging, and washing.

STAFFORDSHIRE GENERAL INFIRMARY, Stafford.—House Surgeon, for two years. Salary £100 per annum, with board, lodging, and washing. Also Assistant House Surgeon. Salary £50 per annum, with board, lodging, and washing.

TILLERY COLLIERIES, Abertillery.—Surgeon. Applications to the Secretary, Newall-street, Abertillery, Mon.

TUNBRIDGE WELLS EYE AND EAR HOSPITAL.—Lady House Surgeon. Salary £60 per annum, with board and residence.

VICTORIA HOSPITAL FOR CHILDREN, Queen's-road, Chelsea, S.W., and the VICTORIA CONVALESCENT HOME, Broadstairs.—House Physician for six months. Honorarium at the rate of £50 per annum and board and lodging in the hospital.

WEST NORFOLK AND LYNN HOSPITAL, King's Lynn.—House Surgeon. Salary £80, rising annually £10 to £100, with board, residence, and washing.

WEST RIDING ASYLUM, Wadsley, near Sheffield.—Fifth Assistant Medical Officer. Salary £100 per annum, rising £10 a year to £150, with board, &c.

WEST RIDING ASYLUM, Wakefield.—Fourth Assistant Medical Officer. Salary £100 per annum, rising £10 annually to a maximum of £150, with furnished apartments, board, washing, and attendance.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL, Wolverhampton.—House Surgeon. Salary £100 a year, with board, lodging, and washing.

Births, Marriages, and Deaths.

BIRTHS.

BARCLAY-SMITH.—On May 20th, at Bateman-street, Cambridge, the wife of Edward Barclay-Smith, M.D., of a daughter.

BOND.—On May 22nd, at Glenside, Godalming, the wife of Bertram W. Bond, M.B., B.S., M.R.C.S., L.R.C.P., of a son.

DREW.—On May 16th, at Water Hall, Oxford, the wife of Arthur J. Drew, F.R.C.S., of a son.

JONES.—On May 18th, at Claybury, Woodford-bridge, Essex, the wife of Robert Jones, M.D., of a son.

LOUDON.—On May 20th, at Netherley Hamilton, Lanarkshire, the wife of J. Livingstone Loudon, M.B., C.M., of a daughter.

NORTON.—On May 19th, at Kennington-park-road, S.E., the wife of Henry Harvey Norton, L.R.C.P., M.R.C.S., of a daughter.

PRITCHARD.—On May 20th, at Cromwell-place, S.W., the wife of Eric Campbell Pritchard, M.A., M.D. Oxon, of a son.

SANDWITH.—On May 15th, at Cairo, Egypt, the wife of F. M. Sandwith, M.D., M.R.C.P., of a daughter.

SMITH.—On May 19th, at Brock-street, Bath, the wife of T. Wilson Smith, M.D., of a daughter.

MARRIAGES.

COCKILL—BEET.—On May 18th, at the Wesleyan College Chapel, Richmond, Thomas Treffry Cockill, M.R.C.S., L.R.C.P., to Josephine Mary, only daughter of Rev. Dr. and Mrs. Agar Beet, of Richmond.

GERMAN—JONES.—On May 17th, at St. Thomas's, Seaforth, Liverpool, by the Rev. R. F. G. Smithwick, M.A., Vicar, assisted by the Rev. E. R. Tarbuck, B.A., Vicar of St. Paul's, Warrington, Arthur William German, L.R.C.P. Lond., M.R.C.S. Eng., of 296, Kensington, Liverpool, to Alice Hannah, eldest daughter of the late Hugh Jones, Tudor Villa, Seaforth.

DEATHS.

MACKENZIE.—On May 17th, suddenly, John William Harris Mackenzie, M.R.C.S., at Daisy Bank, Cheadle, Staffordshire, aged 75.

SPENCER.—On May 17th, at Caseytown, Tavistock, Herbert Spencer, M.R.C.S., late of Bradford, Yorkshire, aged 66 years.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, May 25th, 1899.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radiation in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks at 8.30 A.M.
May 19	30·00	S.W.	...	110	64	50	52	56	Cloudy
,, 20	29·69	S.W.	0·06	68	64	55	55	57	Cloudy
,, 21	29·93	S.W.	0·29	97	61	54	56	61	Cloudy
,, 22	29·96	S.E.	0·09	67	57	50	52	54	Raining
,, 23	29·96	S.W.	0·06	112	66	48	54	56	Fine
,, 24	29·70	S.W.	0·05	109	64	52	53	56	Cloudy
,, 25	29·82	N.E.	0·07	76	52	48	47	50	Cloudy

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (29th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (2 P.M.).

TUESDAY (30th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), Guy's (1.30 P.M.), St. Thomas's (3.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M. and 6 P.M.), Royal Ear (3 P.M.).

WEDNESDAY (31st).—St. Bartholomew's (1.30 P.M.), University College, (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M.), Cancer (2 P.M.).

THURSDAY (1st).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M.), St. Mark's (2 P.M.).

FRIDAY (2nd).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M., Ophthalmic 10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (2 P.M. and 6 P.M.).

SATURDAY (3rd).—Royal Free (9 A.M. and 2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), University College (9.15 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), London Throat (2 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

TUESDAY (30th).—ROENTGEN SOCIETY (11, Chandos-street, Cavendish-square, W.).—8 P.M. Mr. A. W. Isenthal: Short Notes on the Wehnelt Electrolytic Break.—Mr. H. W. Cox will read notes on the same subject. Mr. Apps and Mr. W. Noble will also speak. (The apparatus will be demonstrated.)

THURSDAY (1st).—BRITISH BALNEOLOGICAL AND CLIMATOLOGICAL SOCIETY (20, Hanover-square, W.).—3.30 P.M. General Meeting. Election of Officers and Council for the year 1899. 4 P.M. Ordinary Meeting. Dr. I. Murray: Scarborough as a Health Resort in Phthisis.—Dr. Shirley-Jones: Treatment of Neuralgia by the Droitwich Brine Baths.

FRIDAY (2nd).—CHILDHOOD SOCIETY (Library of the Sanitary Institute, 72, Margaret-street, W.).—5 P.M. Discussion on the Education of Children Feebly Gifted Mentally under the Care of Guardians (opened by Dr. G. E. Shuttleworth).

WEST LONDON MEDICO-CHIRURGICAL SOCIETY (West London Hospital, Hammersmith, W.).—8.30 P.M. Clinical Evening. Cases will be shown by Mr. C. B. Keetley, Dr. L. Dobson, Mr. R. Lake, Mr. L. A. Bidwell, Mr. McAdam Eccles, and others.

LARYNGOLOGICAL SOCIETY OF LONDON (20, Hanover-square, W.).—5 P.M. Cases and Specimens will be shown by Dr. Permewan, Dr. StClair Thomson, Dr. J. Horne, Dr. S. Spicer, Dr. H. Tilley, Dr. W. Hill, Mr. De Santi, Mr. R. Lake and others.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (29th).—CENTRAL LONDON THROAT, NOSE, AND EAR HOSPITAL (Gray's Inn-road, W.C.).—5 P.M. Mr. Lennox Browne: Tuberculosis and Allied Conditions.

WEST LONDON POST-GRADUATE COURSE (West London Hospital, W.).—5 P.M. Dr. Abraham: Diagnosis and Treatment of some Diseases of the Skin.

TUESDAY (30th).—NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Bloomsbury).—3.30 P.M. Sir W. Gowers: Epilepsy.

ROYAL INSTITUTION OF GREAT BRITAIN.—3 P.M. Prof. W. J. Sollas: Recent Advances in Geology.

WEDNESDAY (31st).—HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST (Brompton).—4 P.M. Dr. Maguire: Mitral Regurgitation.

ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN (Leicester-square, W.C.).—4.30 P.M. Dr. M. Dockrell: Eczema. (Post-graduate Course).

THURSDAY (1st).—CENTRAL LONDON THROAT, NOSE, AND EAR HOSPITAL (Gray's Inn-road, W.C.).—5 P.M. Dr. D. Grant: Diagnosis and Treatment of Nerve Deafness.

CHARING-CROSS HOSPITAL.—4 P.M. Dr. W. Hunter: Pathological Demonstration. (Post-Graduate Course).

THE HOSPITAL FOR SICK CHILDREN (Gt. Ormond-street, W.C.).—4 P.M. Dr. Colman: Demonstration of Selected Cases.

WEST LONDON POST-GRADUATE COURSE (West London Hospital, W.).—5 P.M. Dr. Abraham: Diagnosis and Treatment of some Diseases of the Skin.

Notes, Short Comments, and Answers to Correspondents.

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

TO SUBSCRIBERS.

WILL Subscribers please note that only those subscriptions which are sent direct to the Proprietors of THE LANCET at their Offices, 423, Strand, W.C., are dealt with by them? Subscriptions paid to London or to local newsagents (with none of whom have the Proprietors any connexion whatever) do not reach THE LANCET Offices, and consequently inquiries concerning missing copies, &c., should be sent to the Agent to whom the subscription is paid, and *not* to THE LANCET Offices.

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SUBSCRIBERS ABROAD ARE PARTICULARLY REQUESTED TO NOTE THE RATES OF SUBSCRIPTIONS GIVEN ABOVE. It has come to the knowledge of the Manager that in some cases higher rates are being charged, on the plea that the heavy weight of THE LANCET necessitates additional postage above the ordinary rate allowed for in the terms of subscriptions. Any demand for increased rates, on this or on any other ground, should be resisted. The Proprietors of THE LANCET have for many years paid, and continue to pay, the whole of the heavy cost of postage on overweight foreign issues; and agents are authorised to collect, and do so collect, from the Proprietors the cost of such extra postage.

The Manager will be pleased to forward copies direct from the Offices to places abroad at the above rates, whatever be the weight of any of the copies so supplied. Address—THE MANAGER, THE LANCET OFFICES, 423, STRAND, LONDON, ENGLAND.

THE CLERGYMAN AND THE MEDICAL MAN.

THE relations of the medical man to the clergyman should for obvious reasons be as close and as cordial as circumstances permit, and this we are glad to think is commonly the case. In an urban community they are necessarily much looser than they are in a village, for in a town, especially in a big city, the medical man's patients will be distributed over the congregations of many denominations of clergymen, while the clergyman, whatever his denomination or school of thought, will have in his congregation the patients of many different medical men. As a result there is not in town life the great bond between the medical practitioner and the clergyman which exists in parishes where their cure is largely identical. Still, though in a more indirect manner, they can and do help each other immensely in the town, for many a hardworking man and woman although not communicative to both will be communicative to one or the other. To some the clergyman appeals more forcibly as a friend and counsellor and to some the medical man. If the clergyman and the medical man exchange confidences as far as the sanctity of the trust reposed in them allows each gains enormously in knowledge. The clergyman himself, not infrequently the largest almsgiver, is sure to be the recognised almoner of the neighbourhood. A few words to him from the medical man may serve to direct a flow of practical charity by which the health of the breadwinner may be preserved to his family. Similarly the medical man may learn from the clergyman details concerning the environment of his patients which from various motives had been concealed from him although of the first importance to his diagnosis and line of treatment. As long as this sort of coöperation has careful regard for the privileged nature of much that is told to the members of both professions it can only work for the public good.

In the country in the same way, but more directly and certainly, the general practitioner is able to look to the clergyman's labours as a most valuable adjunct to his practical work. Not only is the domestic environment of the patient so well known to the country clergyman that he is able to impart pieces of information to the medical man that may be invaluable as suggestions for medical ministration but his position towards his flock may enable him to give advice which would not always be accepted without resentment from a physician or surgeon. The public, especially the self-respecting poor, will generally do what they are told by the medical man if they think the advice good, but if they do not see the *rationale* of the instructions which they have received they are apt to neglect them. Here is where the clergyman in the country may be particularly valuable to the medical man. The rustic community will follow his suggestions without understanding them. But the simple trust in the clergyman is abused not infrequently by persons who will not confine themselves to their proper sphere but who aspire to be medical men also. The prescribing clergyman is an interesting but not quite harmless survival from the middle ages when the community turned as naturally to the monk for simples as for prayers. Many of our readers have come across the prescribing clergyman and we have introduced him to their notice at different times in these columns. This is the man who shakes his head over the medical man's diagnosis and suggests that indigestion is really what he calls "gastric fever" or that the application which the patient has obtained from the regular source may well be discontinued, that an ointment which clerical experience vouches to be most efficacious may be tried in its stead. Some clergymen have gone even further in the unorthodoxy of their therapeutics and have been found "colloguing" with cancer-curers. If the practitioner in their neighbourhood objects to their interference with his *clientèle* or points out the unwisdom of their proceedings they attempt to get him replaced by some more complacent medical man. This is done, among other ways, by advertising a promising nucleus for sale or a house at a very low rent suitable for a medical man. These things are perfectly well known to us to occur and our columns show that they are quite familiar to the medical profession. But they form grave exceptions to the usual rules which govern the relations of the clergyman and the medical man who for the most part work excellently well together in their private capacities.

The close connexions between public health and public morals—the certainty that in a locality where the former is bad the latter can never be good—compel the clergyman and the medical man to take similar views in matters of State medicine and sanitation. On the great field of morality the paths of the sanitarian and the spiritual teacher are always in the same direction. To take one example only, the clergyman preaches against fornication while the medical officer of health prevents five persons of varying sexes from sleeping in one bed. Each works in his own way towards the same end, and it is almost unknown for a difference o pinion in principle to exist, while in detail the agreement is generally complete. But a letter from a medical correspondent which we now append shows that clergymen re not always liberally minded in matters of public health:—

To the Editors of THE LANCET.

SIRS,—I ask for your help under the following circumstances. There is a widespread and serious epidemic of whooping-cough in this parish and neighbourhood; several children have already died. The medical officer of health has used his powers and ordered the day schools to be closed and written more than once to the vicar of this parish urging him also to close his Sunday school. This the vicar declines to do, expressing the fear that the Nonconformist bodies would "entice his children away." Upon it being represented to him that the Nonconformists also would probably promise to close their schools he replies that he cannot trust such promises. Consequently all the efforts of our medical officer of health and the inconvenience caused by the closing of the day schools are rendered of no effect.

I am, Sirs, yours faithfully,

May 24th. SENEX.

It has not often been our experience to record a more unfortunate piece of perversity than is displayed by this clergyman. He nullifies all the work of the medical officer of health undertaken to stop the spread of a disagreeable and very dangerous epidemic among the children of the neighbourhood, and his conduct, judging from his words quoted by "Senex," has its origin in a particularly narrow bigotry. It is very unlikely that the Nonconformist schools of the district would keep their doors open in defiance of medical and public opinion when the board school and the Church school were closed; but the frame of mind of the man who considers that the risk to the children of being captured by wicked Dissenters is graver than the risk of catching whooping-cough is one which we find it hard to imagine. Speaking with all respect for the Established Church and with full knowledge of the excellent work done by Church schools, we cannot but think that the children who attend the classes of this particular clergyman might obtain more discreet tuition elsewhere.

"A MEDICAL HERO."

To the Editors of THE LANCET.

SIRS,—After reading the account in THE LANCET of May 13th entitled "A Medical Hero," my uncle, Dr. James Nicol of Llandudno, with whom I live, told me of the following incident in his early medical career, similar in details to that of Mr. Burns—an incident which he had seldom or never spoken of before. About 60 years ago Dr. Nicol (who is now 84 years of age and in comparatively fair health with the exception of chronic rheumatism in the back which prevents him from walking, but with intellect and memory perfectly unimpaired) was practising in Carnwath in Lanarkshire and was called to see a Mrs. Smith, wife of a baker in that village, who was seriously ill, and to whom he and another practitioner, a Dr. Paterson, who is since dead, had to apply the stomach pump. Unfortunately it would not act and he and Dr. Paterson, turn by turn about, sucked out the contents of the woman's stomach, who was poisoned by some agent unknown; the woman rallied for a time but eventually died.

I am, Sirs, yours faithfully,

May 15th, 1899. JANIE CHARLESWORTH.

"SUPERFLUOUS HAIR."

To the Editors of THE LANCET.

SIRS,—In answer to Mr. Balmanno Squire's letter in THE LANCET of May 20th allow me to say that I have found that to reduce the hairs to a pale golden colour is sufficient to make them quite unnoticeable. The applications must be, as he remarks, thorough and repeated. The hair becomes very brittle and splits and breaks a good deal, but this I have looked upon as an advantage. As to irritation of the skin in my own experiments I have found that there is some but not more than quite disappears in a few hours with a good wash and a little vaseline. I always tell my patients to use an emollient application after using the lotion and have had no complaints on the subject.

I am, Sirs, yours faithfully,

ETHEL M. N. WILLIAMS, M.D. Lond.

Newcastle-on-Tyne, May 22nd, 1899.

To the Editors of THE LANCET.

SIRS,—In regard to the above your correspondence column has been of the greatest value to me. May I through THE LANCET thank those who have replied to my letter on the subject and assure them that they have given me just the advice I wanted and have so done me a great service?

I am, Sirs, yours faithfully,

May 18th, 1899. M.D.

"THE FUND FOR THE RELIEF OF THE WIDOW OF THE LATE MR. H. KINGSLEY HUNTER, L.S.A."

To the Editors of THE LANCET.

SIRS,—Kindly allow me to acknowledge the receipt of the following donations, making a total of £45 12*s.* 9*d.*

I am, Sirs, yours faithfully,

RIVERS WILLSON, Treasurer.

42, Wellington-square, Oxford, May 23rd, 1899.

	£	*s.*	*d.*		£	*s.*	*d.*
Dr. A. E. Sansom... ...	1	1	0	Mr. C. Biddle	0	10	6
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Dr. J. D. Windle	0	10	6				

A CANCER SOCIETY.

To the Editors of THE LANCET.

SIRS,—I understand that a Cancer Society has been founded in London. I should feel obliged if any of your readers can give the name and address of the secretary.

I am, Sirs, yours faithfully,

Ardwick, Manchester, May 23rd, 1899. R. MARTIN, M.D. Aberd.

THE POSITION OF QUACKS IN INDIA.

To the Editors of THE LANCET.

SIRS,—There appears in the *New York Medical Journal* of March last a statement that the M.D. degree of Chicago and Illinois is bogus. But still in continuation of the article there appears a statement that the said degree is granted under an International University Charter of the United States. Will you or any of your numerous readers be good enough to answer the following questions—viz., whether men holding such M.D. degrees in India under the said charter are duly qualified men and whether they can legally set up in practice or join in partnership with other medical men holding British qualifications? Also, can such men give legitimate death certificates or certificates of any other illness which can be accepted in a court of law?

This question of their legitimacy arises as nowadays in India a good many quacks, second and third year plucked students of the medical colleges in India and several office clerks, resort to buy this bogus degree under the said charter and pose themselves as legally qualified men, thus taking advantage over the innocent and the credulous.

I am, Sirs, yours faithfully,

Bombay, April 29th, 1899. MEDICO.

RAILWAY STATIONS AND VENEREAL DISEASE.

To the Editors of THE LANCET.

SIRS,—We are accustomed to smile at tales of the innocent contraction of venereal disease. The possibility is none the less appalling. Through one of the large railway termini in London there is a permanent right of way. This right is, I believe, the only excuse for the fact that the station has become a recognised haunt for prostitutes. Some months ago I saw emerge from the ladies' waiting-room a woman of so gross an aspect that I followed her and watched her plying her trade in a neighbouring street. Since then I have on several occasions kept an eye upon that waiting-room door. Consequently I have no hesitation in saying that this room is used night after night by some of the most unfortunate of the unfortunate class.

This is a subject which, no doubt, is ancient history to many. It is also a subject which should not be shirked. These women presumably use the lavatories largely—a fact which might nearly touch the female relations of any one of us. THE LANCET has done pioneer work in many a reform. This, too, is a matter upon which more daylight might be shed with great advantage.

I am, Sirs, yours faithfully,

May 15th, 1899. SIDNEY VINES.

POISONED BY TEA-DRINKING.

ACCORDING to the newspapers a coroner's jury at Poplar has returned a verdict of "Death by tea-poisoning." The deceased, who was a male furniture-dealer, aged 38 years, was in the habit of consuming "an enormous amount of tea," often drinking "eight cups before leaving home in the morning." His nervous system had been nearly destroyed, in the opinion of a medical witness, but although that was no doubt the case it seems difficult to understand how death sufficiently sudden to call for judicial inquiry could have supervened.

AN APPEAL.

To the Editors of THE LANCET.

SIRS,—Permit me through your columns to make an appeal to the profession on behalf of the family of the late Mr. Joseph Thomas Cooke, L.R.C.P. & S. Edin., who died from phthisis at Buxton at the early age of 35 years. He practised at Radcliffe in Lancashire for about six years, but his health broke down in 1897, and in the hope of staying the progress of the disease he took an appointment on board a steamer running to the East Indies. About 18 months later he became absolutely incapacitated for work and nine weeks before his death he removed to Buxton. The circumstances connected with his death are of a somewhat painful character, as he has left a widow and three young children totally unprovided for. I have received a sympathetic letter from Sir Henry Littlejohn, saying that he knows of the case and offering the use of his name as a reference.

I am, Sirs, yours faithfully,

SAMUEL HYDE.

Lismore House, Buxton, Derbyshire, May 22nd, 1899.

P.S.—The following gentlemen have already received subscriptions for the widow:—Dr. J. C. Eames, Barnfield, Stoneclough, Manchester, and Mr. Stanmore Bishop, 316, Oxford-road, Manchester. I shall also be pleased to receive subscriptions and I am sure that Sir Henry Littlejohn and Dr. Steell, 96, Mosley-street, Manchester, will assist in the same manner.

THE EMPLOYER'S MEDICAL MAN.

To the Editors of THE LANCET.

SIRS,—Will you kindly favour me with your opinion as to the proper mode of procedure in the following case? A patient attended by myself and my qualified assistant was visited by his employer who expressed a wish (tantamount to a command) to have his medical man called in as a sort of medical superviser. This interference, on a par with that of the loquacious old woman with a sovereign remedy for every ill, was objected to by me and I declined to meet the medical man at the case, especially as the patient himself was not only satisfied with the treatment adopted but also with the progress made, and moreover had no desire for any other medical opinion. The employer's medical man, although not recognised as a consultant, having heard of my refusal to meet him was greatly surprised thereat; nevertheless, at the instigation of the employer he went to the case. The patient being in a dilemma, naturally not wishing to forfeit his bread-and-butter and at the same time loth to give up my services, was recommended by me to choose the lesser evil and I gave up attending.

I am, Sirs, yours faithfully,

May 20th, 1899. M.D.

*** We do not understand our correspondent's objection to meet the employer's medical adviser in consultation. It appears to us such a consultation would have been a wise and satisfactory course for all parties and consent to it would not have implied any acknowledgment that the gentleman consulted had a right to supervise the treatment of the patient.—ED. L.

A QUESTION CONCERNING A ROYAL HOSPITAL.

To the Editors of THE LANCET.

SIRS,—I have a letter in my possession from one Joseph Briggs, dated Royal Hospital, Dec. 3rd, 1771. He says in this letter that he has been there for four years and is much better in health now. The letter was sent to Leeds but the postmark is obliterated and there is nothing to trace where it was sent from; the postage rate is 6*d.* crossed out, presumably paid on delivery to receiving office, and 10*d.* not crossed, presumably paid on receipt. I want to know what Royal Hospital was in existence in 1771 distant a sixpenny and tenpenny post from Leeds, where a man could be for four years, and how I could get to see their record of names?

I am, Sirs, yours faithfully,

Bradford, May 22nd, 1899. X. Y. Z.

*** Chelsea and Greenwich Hospitals, both Royal foundations, were founded respectively in the years 1692 and 1694. Perhaps the letter came from one of these institutions and not from a regular hospital. —ED. L.

WANTED A HOME.

To the Editors of THE LANCET.

SIRS,—Can any of your readers tell me of a home where such a case as the following would be admitted? The patient is a youth, aged 16 or 17 years, a collier, who was kicked by a horse down in the pit. He sustained a compound depressed fracture of the skull for which he was trephined and the sequel is that he now has attacks of uncontrollable temper, making him most violent and unmanageable by his parents. I think that removal from his home and treatment by some firm-minded stranger might result in improvement, but convalescent homes do not admit such cases and his parents are too poor to send him to any paying institution. I should take it as a great favour if you could help me to discover an institution where he could be received.

I am, Sirs, yours faithfully,

Polesworth, Tamworth, May 22nd, 1899. W. H. SMART.

M.D. (Cardiff).—Under the circumstances mentioned if the coroner allowed the fee to be paid the payment would not, we believe, be challenged. When the inquest is upon the body of a person who has died in a lunatic asylum, public hospital, or infirmary the medical officer is not entitled to a fee for making a post-mortem examination, but it is not so certain that he is not entitled to a fee for his attendance as a witness. However, we cannot advise our correspondent either to neglect the coroner's summons—for which there is a penalty—or to make a legal demand for the fee in the present state of the law.

Paris.—We will make inquiries from our Paris correspondent, but we do not think that the opening desired will be easily met with. The address of the British hospital is Hertford Hospital, Paris.

Perplexed.—The question will be dealt with shortly in our columns. It is not possible for us to give a decision, we can only express an opinion.

Rex.—Yes.

During the week marked copies of the following newspapers have been received: *Coventry Herald, Pontefract Express, Warrington Guardian, Macclesfield Courier, Scotsman, Lancaster Guardian, Western Mercury, Leicester Daily Post, Nottingham Express, Glasgow Herald, Bradford Observer, Manchester Guardian, St. Andrew's Citizen, North British Mail, Bath Herald, Accrington Observer, Peterhead Sentinel, Gloucester Journal, East of Fife Record, Bury Guardian, Times of India, Pioneer Mail, Cannock Chase Courier, Midland Herald, Local Government Chronicle, Trowbridge Chronicle, Jarrow Express, Cambridgeshire Times, Kent Messenger, Deal News, Barrow Herald, Citizen, Builder, Architect, Liverpool Daily Post, Brighton Gazette, Lincolnshire Chronicle, Bristol Mercury, Sanitary Record, Leeds Mercury, West Lothian Courier, City Press, Mining Journal, Reading Mercury, Glamorgan Free Press, Shrewsbury Chronicle, Hertfordshire Mercury, Surrey Comet, Southampton Observer, Guy's Hospital Gazette, East Essex and Halstead Times, Surrey Advertiser, Ulster Gazette, Rock, Cheadle Herald, Local Government Journal, Ipswich Journal Worcester Herald, Weekly Standard (Blackburn), Jamaica Daily Telegraph, Chorley Standard, &c., &c.*

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N.—Nemo; Nightlight; N. H. M.

O.—Messrs. Oliver and Boyd, Edinburgh; Oxford Graduate.

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Q.—Quæsitor.

R.—Mr. E. J. Reid, Lond.; Royal Alexandra Hospital for Sick Children, Brighton, Secretary of; Royal South Hants Infirmary, Southampton, Secretary of; Mr. J. Reynolds, Lond.; Royal College of Surgeons of Ireland, Registrar of; Royal London Ophthalmic Hospital, Secretary of.

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W.—Messrs. Wright, Dain, and Co., Birmingham; Mr. A. T. Wysard Wei-hai-Wei; West Riding Asylum, Wakefield, Clerk of; Mr. Harold Whichello, Tattenhall; Dr. S. West, Lond.; West Riding Asylum, Wadsley, Clerk of.

X.—X. Y. Z.

Y.—Dr. Burney Yeo, Lond.

Letters, each with enclosure, are also acknowledged from—

A.—Mr. R. Appleyard, Southport; A. C.; Mrs. A.

B.—Mr. W. F. Brook, Swansea; Mons. O. Berthier, Paris; British and Foreign Oxolin Co., Lond.; Messrs. T. Browne and Co., Lond.; B. M. C.; Messrs. Braham and Son, Great Yarmouth; Mrs. L. A. Brooks, Grays; Bronygarn, Maesteg; Mr. H. Brice, Exeter; Messrs. Burgoyne, Burbidges, and Co., Lond.; Dr. B. W. Bond, Godalming; Dr. G. G. Bothwell, Hull; Messrs. J. Beal and Son, Brighton; Mr. G. W. Bernini-Palmer, Plymouth.

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D.—Messrs. J. Defries and Sons, Lond.; D. P.; Dumfries and Galloway Royal Infirmary, Treasurer of; Dr., Manchester.

E.—Mr. G. P. Elliott, Todmorden; E. S. N.; E. A. L.; E. S. W.; E. G. A.; Edina, Manchester.

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